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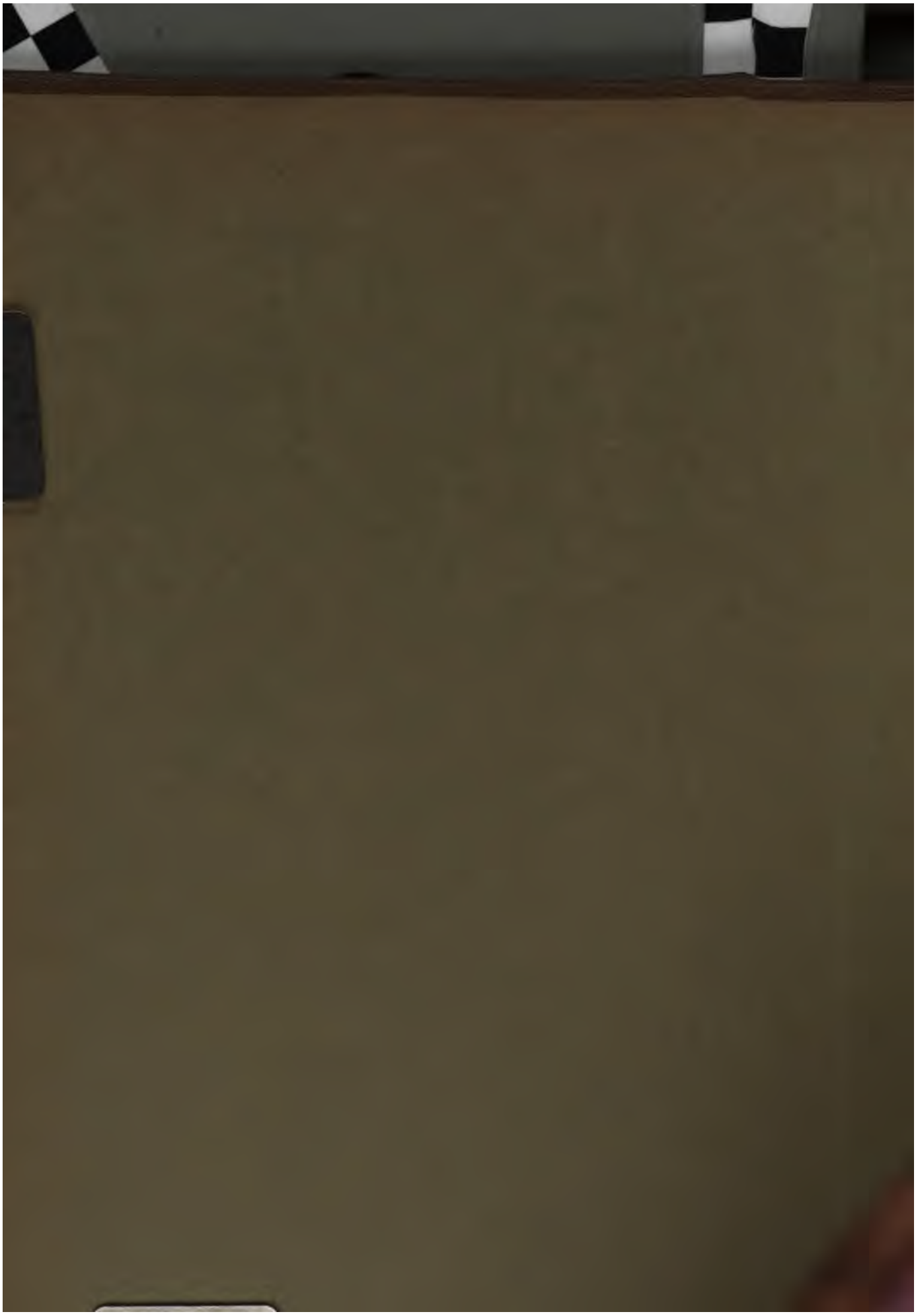

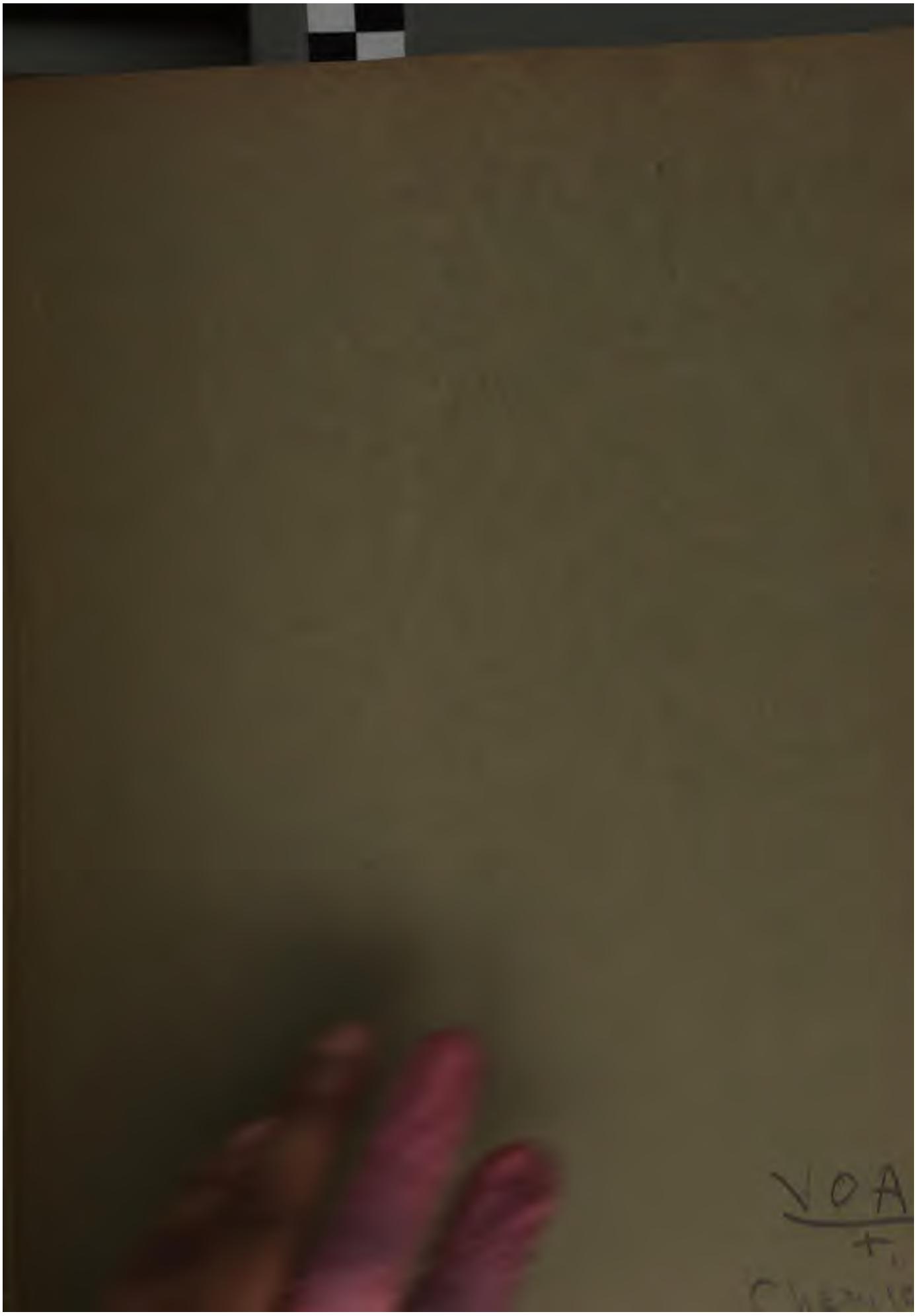
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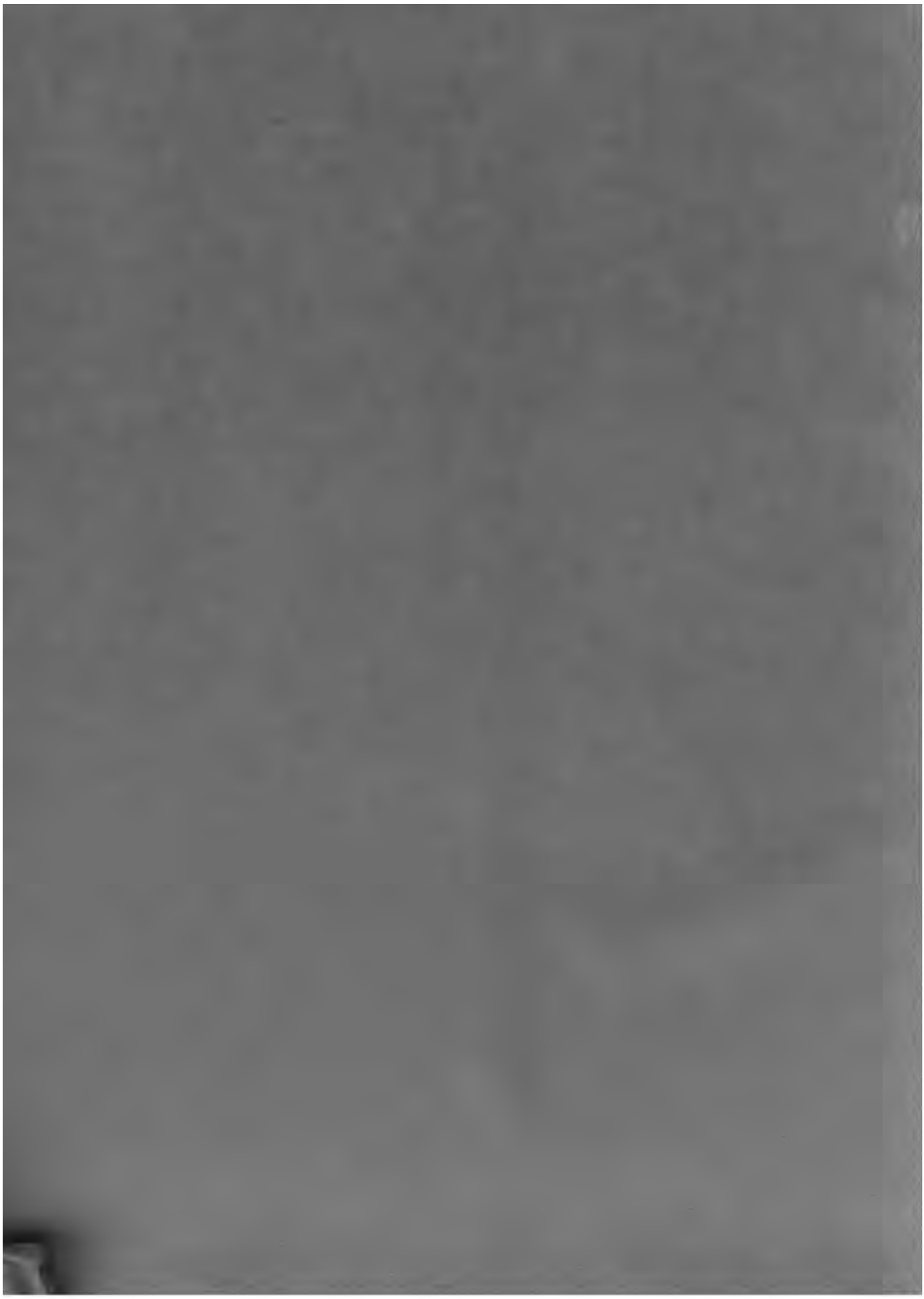

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THE

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A WEEKLY NEWSPAPER DEVOTED TO

The Commercial Aspect of the Chemical and Allied Industries.

EDITED BY

GEORGE E. DAVIS.

FORMERLY ONE OF HER MAJESTY'S INSPECTORS OF ALKALI WORKS.
CHEMICAL ENGINEER AND CONSULTING CHEMIST.

VOLUME XIV.

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THE PAST, PRESENT, AND FUTURE.

IT would not be a very difficult matter to find a task more congenial to our taste than that of reviewing some of the incidents which have happened in or affected the chemical and allied industries during the past year. Not that there has been a lack of incident, nor because there has been little of interest in the changes that have befallen these industries; but rather because many of the experiences have been fraught with forcible teaching, the learning of which, as is often the case with the knowledge gained by experience, has been a bitter task to more than one.

THE CHEMICAL TRADE

has had to learn some of these lessons, but they have been tempered somewhat by the knowledge that there are others who have been in the same boat. Unfortunately, this consolation is rendered merely temporary, since two blacks do not make a white. In what may be termed genuine heavy chemicals, prices have been fairly high, with the exception of vitriol, which is as cheap as it well can be. Caustic soda has fetched good prices, and stands now about ten shillings per ton dearer than it was this time a year ago. Bleaching powder, which has been commanding a comparatively high figure, also shows an advance of ten shillings per ton or thereabouts. Numerous processes are on the carpet for the production of bleaching powder, and electrolytic processes in particular are much *en evidence*. Another nitric acid process (Wallis's patent) for the production of chlorine will, all being well, also be given a trial during the next few months on the manufacturing scale. Of the two works at Northwich which have turned their attention to the production of bleach one has been in successful operation since May of 1893, and the other commenced to make muriatic acid on January 1st, 1894, though the company which made a venture in the same direction near Irvine is no more. Under these circumstances the future of bleach as regards price is problematical. Quotations for forward business are considerably below present values, but it is not a necessary sequence that immediate sale prices will follow suit. The coal strike, coupled with the combination which was and could only have been effected under the existence of the United Alkali Co., did much to keep prices up to a remunerative level; thereby alleviating in a measure the depression which was aggravated by the stagnant state of trade in the United States, owing to the depreciation of silver. Bearing these facts in mind, the effect of placing at least another 15,000 tons of bleach a year upon the market becomes a matter for wide conjecture, and infuses considerable interest into the future of this article. Though the stoppage in the coal trade had a hardening effect on certain articles, it also operated just in the opposite direction upon others. The glass works being stopped for want of fuel, the consumption of salt cake was so curtailed that it could almost

be had for the asking, and prices even now are so low, that the transaction of sales at the current values amounts to all but giving it away. Soda ash has had a bitter experience, and makers have realised that the "lowest deep" may yet contain a "lower deep." A better understanding has now allowed prices to advance to a figure that ought to satisfy both producers and consumers. Bichromates, though stationary in price under the management of the syndicate, might well be in a better position. Desponding as the tone of the foregoing may seem, it must not be forgotten that trade in general has been under a cloud, and the shadow of the same has fallen on trade abroad as well as in this country; so that the chemical trade is overcast with a dullness shed by the skirtings of as many clouds as there are industries dependent upon it for raw materials—and they are not a few. At the same time there is substantial evidence in the shape of dividends, that if things have been rocky, there has not been a wholesale wreckage; and it is truly phenomenal in a year which has been so full of disturbing incidents, that a purely chemical concern should be able to pay such an enormous dividend as 100 per cent. The fact should inspire with fresh hope those who are developing the chemical trade in humbler ways; a hope which will be strengthened by the thought that the present year promises better things in trade generally, or in other words a revival of activity to the chemical industry.

TAR AND AMMONIA PRODUCTS

contrast strongly in their behaviour, when a comparison is made of their respective courses throughout the year. At the beginning of the year 90's benzol, which stood at the unremunerative figure of 1s. 6d., was, by the action of a syndicate raised to about 2s. 1d. This state of affairs did not last long however, and ere the close of the first quarter of the year 1s. 8d. was nearest value. The remaining nine months have not brought much improvement. As a matter of fact they have brought what appears at first sight to be a singular change, since 50/90's benzol is now dearer than 90's. Nevertheless, both are exceptionally low in price, the former being quoted to-day at 1s. 6d., and the latter at 1s. 5d. Crude carbolic acid is at present also in rather low water, while anthracene is maintained at a nominal figure. All this is not very encouraging, seeing that the production of benzol is likely to increase rather than otherwise. Coke ovens on a recovery basis are being extensively erected not only abroad but at home, though the number in this country is comparatively small at present. Benzol and anthracene can hardly be any cheaper, yet the out-put will be augmented as more coke ovens are erected; so that to say anything about the possibilities of the future is out of the question. Two articles at least, viz., solvent naphtha and creosote, are, however, stronger than they were last year, and pitch also keeps steady. Moreover, concerning the prospects of these three, there is no immediate cause for anxiety.

With sulphate of ammonia things have been very different. Early in the year the low prices which ruled during 1892 gave place to a new *régime*. By the middle of March values had advanced about 50s., nor did they stop there, but rose steadily, and continued at a very satisfactory level down to the present time. So interesting has the situation been, that the matter was dealt with by us in a comparatively recent issue of the *Journal*, so that to go into further particulars would entail a mere repetition of much that has already been said. The dullness of the Scotch oil trade, though little improved *in itself*, has no doubt been more or less instrumental in strengthening the position of sulphate, and our northern friends have, we think, reaped their share of good from the round prices which have been obtainable. The products recovered from blast furnace waste gases have also found a fairly good outlet, without becoming a drug in the market, despite the extensions which have been made in the output.

THE MANURE TRADE

has not been without signs of activity during the past year, the excessive cheapness of vitriol which was looked upon adversely by those connected with the chemical trade proving very beneficial to the manufacturers of superphosphates, and similar artificial manures. At least two works, in addition to materially increasing their output, have erected vitriol plant instead of buying as had been their practice, a fact which speaks well for the manure trade at all events. The advantage thus afforded to this branch of the trade was, however, counterbalanced, and largely discounted by the very circumstances which brought about these advantageous conditions. We refer to the cheapness, or rather superabundant supply, of vitriol. Some manufacturers having been unable to find any outlet for the vitriol they were producing, made use of the same by entering *pro tempore* into the field of the manure manufacturer, and working off their vitriol by treating mineral phosphates for the production of artificial manures. Space will not allow us here to go further into the details of the various branches of this trade, but an interesting though brief review of the fluctuations of manure materials during the past year will be found elsewhere in the columns of this issue. Taking all things into consideration, the past year has not been altogether unsatisfactory, and things generally, so far as can be judged, do not appear to entail any serious forebodings as to the future.

OIL, PAINT, COLOUR, AND VARNISH MANUFACTURERS

have experienced many ups and downs during the past twelve months, and especially so at the East Coast centre of these trades. In the paint trade a strike of small moment occurred in April, which, however, was concluded by an amicable settlement. In the same month labour struggles further developed in the shipping trade, leading to a serious and extensive stoppage in the seed-crushing industry. Towards the end of May, however, the mills at Hull and thereabouts, with one exception, began to run again, and business for a time was fairly good. An exceptionally dry spring caused the seed-crushing trade to be brisk much farther into the year than is generally the case, so that the slack season did not commence until June. Unfortunately, the disturbances created by labour disputes were not at an end, as the disturbance in the coal trade had assumed definite shape by this time, and began to make itself felt in all the trades of the district. Consequently for the latter portion of the year depression was rife in the seed-crushing trade, while varnish, oil, and colour works were either temporarily stopped, or worked upon rigidly economical lines, short time being the rule and not the exception. Now that the coal strike is impaled within the limbo of the past, things, we are pleased to say, are looking up, and in the oil and paint trade especially the prospects for 1894 are to say the least promising. We can only add that it is our fervent wish that these expectations may be realised, and that a portion at least of like improvement may fall to the lot of the other branches of the trade.

GLASS, BRICK, AND TILE MANUFACTURERS

have been just about kept going, the glass trade particularly having had a chequered existence. As in every other branch of trade, the coal strike played havoc, despite the stocking

of coal which took place early on in the strike. The scarcity of coal, coupled with its high price, for the time being practically put a stop to an industry which has of late not been any too remunerative. Nor was the effect of this slackness confined to this individual trade, as the closing of many glassworks threw large quantities of saltcake on to the hands of chemical manufacturers, the particular effect of which we have already referred to. Ignoring the unfortunate effect upon this article as far as the chemical trade is concerned, glass manufacturers have now the advantage of being able to obtain salt-cake at a price which, to many minds, borders on the ridiculous, so that, taking all things into consideration, it is indeed an ill-wind that does not waft a few crumbs of consolation to some one quarter or another. With the assurance of the leader of the Miners' Federation that the settlement which is to take place next month will not cause any further stoppage in supplies of coal, we think we can with reasonable justice hope that things will prove more cheery to these branches of trade during the present year. And now we come to those whom we must address as

OUR READERS IN GENERAL.

Covering, as they do, many industries, we can only briefly refer to them as a whole, and most of them no doubt will agree with us that it is advisable to say but little about the misfortunes of the past, turning our energies rather to the task of making the best of the opportunities which the present year, it is to be hoped, will afford. The quietude of the textile trade has affected calico printers, dyers, and drysalters, and also in turn chemical and mineral merchants, analysts, and assayers. It is a long lane, however, that has no turning, and from all accounts the opening year will enable many of the foregoing to see round the corner. In our *Annual Special Issue*, which will, as is now our custom, appear on the 20th inst., we shall endeavour to present articles and information which will assist one and all in their respective branches of trade.

The appreciation of our last effort has been such as to determine us to follow much the same lines, and it is with the confidence inspired by the past, that we venture to anticipate that our readers will find our double number this year as good, if not better, than the last. We must not, however, delay till then to avail ourselves of a time-honoured custom, and, therefore, take this as the earliest opportunity to wish our readers one and all, abroad as well as at home,

A HAPPY AND PROSPEROUS NEW YEAR.

XYLOLITH OR WOOD STONE.

XYLOLITH, or wood stone, is coming into extensive use in Germany. A recent number of the *Bautechniker* gives the following particulars. Xylolith, or steinholz, or wood stone, is made of magnesia cement, or calcined magnesite, mixed with sawdust, and saturated with a solution of chloride of calcium. The pasty mass, before the cement sets, is spread out into sheets of uniform thickness, and subjected to an enormous pressure, amounting to more than 1,000 lbs. to the square inch. The compressed sheets are then simply dried in the air. The original invention of this material dates back to 1883, but it is only within the last five years that a single firm, that of Otto Sening & Co., at Pottschappel, near Dresden, has undertaken the manufacture of it on a large scale, and has met with such success that it is already engaged in the erection of extensive additional works in the Austrian territory, to supply the South German market. In 1888 a series of tests of xylolith was made at the royal testing station for building materials in Berlin, covering its chemical as well as mechanical qualities. In resistance to tension it was found, naturally, that dry material was much superior to the same soaked with water, dry specimens resisting a tension of about 100 lbs. per square inch, while pieces saturated with water resisted only two-thirds as much. Soaking the dry material in linseed oil increased the tensile strength about 16 per cent., and freezing diminished it slightly. The resistance to compression proved to be about 300 lbs. to the square inch. This was diminished about 10 per cent. by freezing, and increased to about the same extent by careful drying and saturation with linseed oil.

The specific gravity of the new substance was found to be 1·553. The fractured surfaces showed a yellow colour, with a perfectly uniform and close grain. When immersed in water, unbroken sheets of perfectly dry material took up 2·1 per cent. of their weight of water in 12 hours, and 3·8 per cent. in 216 hours. Broken pieces absorbed in the same time about 20 % more water than the unbroken sheets. To try the resistance to the influences of the weather, a large number of samples were taken, and subjected to boiling in water, brine, soda-lye, hydrochloric acid, and solutions of sulphate of iron, sulphate of copper, and sulphate of ammonium, alternating the boiling with sudden cooling After several days' treatment with hydrochloric acid a loss of 2·3 per cent. in weight was observed, but the properties of the pieces under test were not perceptibly affected. In the other cases no loss of weight could be detected, nor was there any other apparent alteration, and the liquids used for treating the samples remained perfectly clear. Exposure to super-heated steam, in a Papin's digester, also produced no visible effect. In hardness, the material was found to occupy a position between feldspar and quartz, being scratched by the latter, but not distinctly so by the former. As a conductor of heat, the xylolith was found to rank between asbestos and cork, being, therefore, one of the best non-conductors known. To test its fire-resisting qualities, sheets were exposed for three hours to the flame of a Bunsen gas burner, by which the actual surface touched by the flame was charred, although there was no crumbling, or extension of the charring beyond the marks of the flame. Similar pieces, laid on the burning coal in the fire-box of a drying oven, and kept for some time at a red heat, were rendered brittle, and crumbled at the edges, but kept their shape and cohesion, and showed no sign of breaking into a flame.

For use, xylolith is delivered in sheets, from a quarter of an inch to an inch and a half thick, and of all sizes, up to a metre square. The dimensions are almost unchangeable by dryness or moisture. A sheet measuring one metre square when perfectly dry will expand from one to two-tenths of one per cent. when soaked in water, and a moist sheet will contract in drying to about the same extent. Being so little subject to contraction and expansion, it is extensively used for floors in railroad stations, hospitals, and similar buildings. It is readily planed, sawed, bored, and fashioned with ordinary wood working tools, and may be painted or decorated in the same manner as wood. It is itself nearly waterproof, and with suitable putty in the joints and a good coat of paint, it may be made entirely so. It is not surprising that a material possessing so many advantages should have come into extensive use, and we trust that its use will extend.

THE IMPERIAL INSTITUTE.

THE annual report of the Imperial Institute, which was presented to the second general meeting, held on December 20, has been printed, and is now issued. The progress which has been made with the buildings during the year is fully described, and the opening ceremony in May last is referred to as having been an unqualified success. The expenditure connected with the ceremony and the evening reception amounted to about £5,000., exclusive of the cost of the temporary great hall, while the sale of seats realised only £2,541. The deficit against the funds of the Institute was, however, met by the profits resulting from the display during eight weeks of the wedding presents of the Duke and Duchess of York which their Royal Highnesses allowed to take place in the galleries of the Institute, and to which Fellows and the public during that period were admitted free to the number of 104,798. Account is given of the progress made in the Indian, Colonial and United Kingdom sections, in the department of scientific and practical research, and in all the other departments upon which energy has been expended during the year. Steps have been taken by the Institute to supplement the useful work carried on for some years past by the Emigrants' Information Office, which is connected with the Colonial Office. The curators of certain of the Colonial sections are applied to from time to time for information by intending emigrants, and this is especially the case in the Canadian section, where Mr. Harrison Watson, the curator, has taken considerable trouble to collect, and have available for inquirers, printed information relating to the several provinces The organisation upon an efficient footing of the Commercial Intelligence Department, which the report says is destined to become one of the most useful sections of the Institute, has made but slow progress during the past year, the funds necessary for the establishment of a small working staff being at present not available. Nor has much progress been made in the development of the school for modern Oriental studies. The classes are not as well attended as it is wished that they should be. In conclusion, the report states that, "the Executive Council recognise the necessity, and indeed the wisdom, of rendering the Institute and its resources as attractive to the public as is compatible with the maintenance of the high position which it should occupy among the national institutions of the Empire." The total number of visitors to the Institute between May 10 and December 16 was 468,571. The accounts are not yet made up for the year, but an approximate statement of the financial position of the Institute is appended to the report. The surplus of income over expenditure for 1893 is estimated at £4,306.

Parliamentary Jottings.

DELIRIUM TREMENS FROM METHYLATED SPIRIT.

In the House of Commons a short time since, Mr. Provand asked the Secretary for Scotland whether his attention had been called to the report by the acting inspector of the parochial board of Barony parish, Glasgow, in reference to cases of *delirium tremens* in the asylum and poorhouse in connection with the facilities which existed for obtaining methylated spirit; and whether he would inquire into the regulations under which the sale of methylated spirit was conducted in Glasgow with a view to their revision, and, if found necessary and practicable, transferring control from the Excise to the police.

Sir G. Trevelyan: The report of the acting inspector of the Barony parish parochial board has been submitted to me and referred by me to the prison commissioners, who inform me, upon the testimony of their medical officer, that there is only one case among those mentioned which would come under the category of "finish" drinking. I am also informed by the Board of Inland Revenue that fresh regulations were laid down by them in 1891, under which every effort was made to render unpalatable the methylated spirit capable of being sold by retail; and that, in their opinion, the restrictions cannot be increased, having regard to the requirements of the trade, nor is it practicable to transfer the control of the matter from the Excise to the police. I may also point out that the subject is at present regulated by one and the same statute law throughout the United Kingdom.

DANGEROUS LAMP OILS.

In the House of Commons, last week, Mr. Caine asked the Home Secretary whether his attention had been directed to certain statements as to the alleged danger of the present flash point, 73°, of lamp oils sold chiefly among the poor; whether the Government had any intention of raising the flash point to 100°, as suggested by various experts; and whether he had been officially informed of resolutions passed by the Glasgow and Manchester sections of the Society of Chemical Industry condemning the present system and recommending the raising of the flash point.

Mr. Asquith replied that there was no alteration in the flash point of 73°. The point was a debatable one, and one on which conflicting interests largely differed. The question could not be settled until after careful inquiry by a Parliamentary Committee. There was no prospect in the present state of public business of legislation on this subject. No official report of the resolutions referred to at the end of the question had been received, but he had seen them in other ways.

MILK ANALYSIS.

Mr. Bartley asked the President of the Board of Agriculture whether his attention had been called to the complaints made with regard to the analysis of samples of milk submitted to the Government analysts at Somerset House; and what steps the Department of Agriculture were taking to protect dairy farmers against the injury done to them by the low standard of quality thus officially laid down.

Mr. Gardner: The matter is not one in regard to which I possess any statutory powers, but I have from time to time brought under the notice of the Local Government Board and the Board of Inland Revenue the representations made to me on the subject. It is with those Departments that the decision in the matter must rest.

TEST FOR WINTERGREEN OIL.

THE following is an excellent test for oil of wintergreen, or birch, that is suspected of being mixed with the synthetic oil.

The theory is that while synthetic oil wintergreen is almost the same chemically as true oil, yet it being an alcoholic product it is impossible to entirely remove traces of alcohol; hence, if a small particle of red aniline soluble in alcohol be dropped into a vial of the synthetic oil it will immediately show a disposition to dissolve, which is not the case with true wintergreen. Practically this is found to be the case. In three to five minutes time, by agitating vials of both oils with aniline in them, it will be noticed that the artificial product readily dissolves the aniline, whereas the other will hardly have any perceptible effect on it. After the lapse of fifteen minutes to half-an-hour both will be discoloured, but the artificial will have a purplish tint, while the natural oil will be more of a cherry colour; and in proportion as the two are mixed so will be the time and extent of colouration.

This is a delicate test, fit only for use by experts, for which reason we have not hithertofore published it, as by it a careless user would probably reject all the oil he purchased, whether pure or otherwise. Before adopting it for use it will be well to make several experiments in order to get a correct idea of the length of time required for the action of pure oil wintergreen on the aniline, in comparison with the *artificial or known mixtures of* the two.

THE POSITION OF CHEMICAL ACTIVITY IN INDIA.

ALTHOUGH India is rich in treasures of all kinds, it has but little interest for scientific men, with the exception of lawyers and doctors. India in its enormous extent, bears both upon and beneath its surface treasures scarcely to be found in any other land, but only inconsiderable attempts are made to reap the benefit of these accumulations. Chemical industry in particular, which might have a vast development, is unknown. Theoretical chemistry is taught in the various "universities," but beyond that little can be said, and there is also little to say of the practical side of the subject. As far as we know, there is only one *bona-fide* chemical works (excepting oil and other works, of course), that of D. Waldie and Co., in Cossipur, near Calcutta, at which a few, but excellent chemical products are made (acids, ether, ammonia, etc.) There is, moreover, only one glass works in India, also near Calcutta, and this has only been opened a year or so, and limits itself at present to the production of ordinary bottle glass on a somewhat modest scale. There is an official laboratory in the Nilgiris for the extraction of eucalyptus oil, quinine, etc, but otherwise official chemists are as unknown as in many European countries. The latest very promising sign of chemical industry is the establishment of a company to manufacture liquid carbonic acid, in order to send the filled cylinders up country, and thus to render possible the manufacture of soda water at these remote stations at a low price.

These are the only directions in which chemical industry is at present active in spite of the wide field open to it.

For chemical industry to be successful it is of course necessary that the raw materials be not imported from the West as has hitherto been done, everything being thereby doubled, or even increased tenfold in cost. Chemical works must therefore be set up in India, and their future is certain, provided that other branches of industry also emerge from the somewhat primitive conditions of the present. The manufacture of glass in India is sure of a prosperous future. At the present time all glass is imported from Europe, and this renders prices so high that glass articles are by no means cheap.

Once the possibility of chemical industry on the large scale has been provided by the exploitation of raw materials, the exportation of these might be prevented by duties and their treatment carried out in the country. When it is borne in mind what enormous quantities of indigo, raw sugar, crude shellac, crude dyes, etc., are exported from here, it becomes a matter of surprise that the attempt has never been made to work up these articles on the spot. The extraction of indigo, as it is everywhere carried out, especially in Southern India, is attended with losses due to the primitive arrangements which could never occur under a more scientific direction. The crude raw sugar, cane or Palmyra-jaggery, is also obtained by the natives in the most primitive way, and packed and shipped in the form of a black syrup, the loss amounting to about 10 to 30 %. In this case too no one has endeavoured to introduce the European method of treatment. In the cases of quinine and eucalyptus oil some effort has been made, as mentioned above, to prepare the pure articles in the country, but large quantities of other products, such as dye-woods, gum, shellac, etc., are entirely neglected.

The numerous tanneries work entirely without chemical control, and the chief residues are simply allowed to decay, instead of being worked up into gelatine.

India has coal mines, gold fields, iron, lead, tin mines, lime-stone quarries, salt beds, &c, but all these are only worked in a half-hearted sort of way. Occasionally a right of exploration is granted for some discovery of minerals, but nothing much ever comes of it. A chemist or mineralogist working steadily would be sure to succeed in establishing a profitable undertaking

The few chemists who are actually employed in India by private firms have too little time to busy themselves with anything out of their immediate routine. In spite of the vast extent of the field to be opened up, it will be very difficult for the chemist to establish a successful manufacture. In the first place a large capital is necessary, for all machinery and appliances must be ordered from Europe. In the meantime, all steam coal must also come from Europe, since water power is never to be depended on. All chemicals must also be brought from Europe. In the second place the salaries for the higher officials, managers, &c., who must be Europeans, will have to be very high, as is the case all over India. Native labour is by no means so cheap as might be supposed. Although the wage of a single man is perhaps not so very much, yet where one hand would be employed in Europe, ten are required in India. This is due to the peculiar character of the natives, and it would be absolutely useless to struggle against it. Land is tolerably cheap, and so is building material, but anything beyond bricks, clay, lime, and beams must be sent from Europe.

Further, it is necessary to become a large landholder so as to have the products of the indigo or sugar plantations, &c., at your disposal; if the raw material be purchased as it arrives from the numerous small

rs of the interior, a portion of the profit is at once lost. Another alty arises from the deficient means of transport. The railway n of India is a very wide meshed one, and the navigation of the , especially in Southern India, but little developed. The choice district is therefore one of great importance. The law of taxation atents is about the same as in England, and would, therefore, no hindrance to chemical industry. The position of a chemist is wise a sufficiently pleasant one. His education gives him a social on among the English, and he has enough to live on comfortably. hances are certainly not very great, but if any should arise, they orthy of acceptance In addition to a pleasant life, opportunities rise for research both scientific and industrial, with good prospects cess. In any case it would be absurd to go out on the chance of ing such a position, as of this there is scarcely any prospect, and an endent start can only be made with a large capital as explained . Laboratory appliances must, as a rule, be obtained from e. There are it is true one or two places in Bombay and tta, from which chemical apparatus can be ordered, but no ce can be placed upon them. In Madras, all glass apparatus has ordered from Calcutta, and after a week or a fortnight the goods in the form of a heap of glass fragments.

king everything into consideration, it appears that at present rospects for chemists seeking employment in India are not avourable, whereas, for a capitalist wishing to found some branch mical industry the outlook is by no means bad.

ly one branch of applied chemistry already flourishes here. This rmacy. In India, with its innumerable small climatic and other nts, druggists are much in request. They are however scarce, eir prices are sometimes preposterous, but in the absence of tition the public has to pay. Most of the drug stores are more- ept by half-castes and uneducated persons, so that an apothecary be in great request. With the business of druggist is generally that of soda water manufacture, which pays well, since soda is a necessity of life in India. The druggist may therefore seek tune here with great probability of success.— *Chemiker Zeit.*

CARBON DIOXIDE IN RELATION TO VENTILATION.

a paper on the value of carbon dioxide as a measure of the fficiency of ventilation appearing in the journal of the American ical Society, E. H. Richards points out that many people live and ntly thrive among the most nauseous odours, while under more able conditions they sicken and die. One theorist has given a only to be forced to the wall by another quite as plausible. en them the advocate of pure air finds slight hearing. It is only recent years that a knowledge of the significant fact that not to lf nor even to the bad odours it carries, but to the dust particles g living germs and spores is to be attributed the spread of dis- herefore filtered air, like filtered water, has become a necessity dust cannot be avoided by scrupulous care.

now with our increased knowledge of the causes which lead llity to disease, it seems probable that the chemist and sanitarian last unite in a winning fight for pure air. In a word, the new oint relates to the *resistance* which healthy blood and tissue t to the attacks of disease. This resistance is, we believe, due to rfect nutrition of the blood corpuscles, and this is largely lent on the inhalation of air containing sufficient oxygen.

itiated air the blood becomes quickly loaded with imperfectly d products which cause derangement more or less serious, and render the individual, who is poisoned from within rather than ithout, more liable to succumb to disease.

is view is in any measure correct it is important that chemists e to urge upon the community the importance of a sufficient of air, especially in schoolrooms, and it is to be hoped that iews will command more respect than heretofore. It is notorious en college halls and fine public buildings, which should be es, are in fact the worst of any buildings.

Laboratory of Sanitary Chemistry at the Massachusetts Institute nology has had for the past nine years exceptional opportuni- the study of the relation of the amount of carbon dioxide to the cy of the ventilation, in that the Walker building is supplied echanical ventilation under the direction of an expert and in trol of the engineer, who has records for all these years of the and temperature of air supplied to each room, and of the ature of these rooms taken four times each day.

ng these nine years some 5,000 determinations of the amount of dioxide have been made in these rooms by some 200 students. problems have been studied and several reports published; burdening the reader with details, to state a few of the con- reached, may stimulate others to add to our too meagre know- this subject.

The outside air of the space around the Massachusetts Institute of Technology, Boston, varies from 3·7 to 4·2 parts carbon dioxide per 10,000.

The deterioration of the air as shown in the empty rooms is about 0·5 part, due to the decomposition of the organic matter present in the flues, the floors, and in the walls.

The air of the building in general, halls and drawing rooms, reading-rooms, etc., which are open, and in which people are constantly moving, is maintained at about 5·0 parts as an average of examinations during eight years. In the ninth year there has been an increase due to an increased number of lecture-rooms on the second floor.

The air of most of the lecture-rooms has contained from six to eight parts; of the larger crowded halls for 200 or more students, ten to twelve parts according to weather, whether it is clear and dry and with a strong wind, or whether the air is loaded with moisture, and is still.

From this experience it would seem that students can work well in a clean room with about seven parts per 10,000 of carbon dioxide; much more than this causes dulness, and anything over 13 parts causes in most cases an almost impassable barrier to the full acquisition of knowledge.

When churches, halls, and lecture-rooms usually show from 14 to 18 parts per 10,000 in 20 minutes after the audience assembles, it is not strange that eloquence often fails to arouse enthusiasm.

THE MANURE TRADE IN 1893.

THROUGHOUT the past year the movements of the chief manurial products have been as follows:—

Mineral Phosphates.—The most important incident bearing upon the market which has occurred during the year has been the cyclone in America, in August, much damage being done to the works and plant in South Carolina. And it may be noted that the raisers, in their negotiations with the State authorities for a reduction in the royalty have not been in a hurry to get their works into order again. The year opened with South Carolina River Rock at about 6¼d. per unit c.i.f. in cargoes to United Kingdom, hardening up to 6¾d. in August, since when prices have been mainly nominal, closing value being probably about 7½d per unit. More attention has perforce been turned to Peace River Rock, 60%, at about ¼d. per unit over prices for South Carolina. Buyers are looking with interest upon the opening up of mines in Algeria, 60/65% grade phosphate, as likely to have a steadying effect upon prices of Carolina and Peace River Rocks, but the extent of probable output can as yet scarcely be estimated. Continental phosphates seem to be yearly of less interest to United Kingdom buyers. The output of 75/80% Florida phosphate continues to increase, but demand has kept pace with the supply, and the market closes very firm for forward shipment. Baltic and Mediterranean like this grade of rock, and each year are taking larger shipments. The year opened at 8d. per unit in cargoes c.i.f. to United Kingdom, and in the early months ¼d. less was accepted, owing to easy freights; but in the second half of the year prices have hardened up to 8½d. per unit, and closing value is about 8¾d. per unit. Continental price has ruled about ¼d., and Baltic and Mediterranean ½d. to ¾d. above the United Kingdom.

Bones and Bonemeal.—Owing to falling off in imports in 1892, and consequent shrinkage in stocks in Europe, and no doubt also to the great advance in the price of sulphate of ammonia, the value of bone has advanced pretty nearly 20% on the year, with every prospect of a further advance. River Plate cargoes opened at £4. 2s. 6d. per ton; anything of handy size and near at hand would probably now fetch £4. 17s. 6d. Crushed Kurrachee bones were worth £4. ex quay, Liverpool, in January last; they are now worth fully £4. 17s. 6d. per ton. The value of Bombay bonemeal in January was £4. 2s. 6d. ex quay, Liverpool; £5. is now asked. Charring bones have been in request all through the year, and £4. 12s. 6d. is probably nearest closing value, ex quay, Liverpool.

Nitrate of Soda.—The year opened quietly at 9s. per cwt., hardening gradually, until in March 10s. was touched, and 10s. 6d. in April. By middle of May the value had fallen to 9s., and by middle of June to 8s. 6d. per cwt. From that point the market has hardened up as the 1894 season has been approached, and 9s. 1½d. to 9s. 3d., according to quality are closing spot quotations. Due cargoes are worth about 9s per cwt. ordinary quality.

Throughout the year there has been great scarcity of *Miscellaneous Nitrogenous Material*, anything arriving being readily picked up at good prices, owing to the high value of sulphate of ammonia. With the exception of nitrate of soda, all kinds of manure material seem to be in a strong position. Owing to the approaching termination of the nitrate combination, operators are shy of committing themselves to heavy holdings beyond March or April, and consumers are in the main limiting their purchases to the early months of the year, there being apparently no great object in buying further ahead.

THE HEALTH OF CHEMICAL OPERATIVES.

THE report of the committee appointed by the Home Secretary to inquire into the dangers to life, limb, and health attending employment in chemical works has just been issued as a Parliamentary paper. The members of the committee were Mr. W. Dawkins Cramp, Superintending Inspector of Factories (chairman); Mr. A. E. Fletcher, Chief Inspector under the Alkali, &c., Works Regulation Act; Dr. P. A. Simpson, Regius Professor of Medical Jurisprudence at Glasgow University; Mr. D. J. O'Neil, M.B., C.M., certifying surgeon, Widnes district; and Mr. H. S. Richmond, Inspector of Factories (secretary). The scope of the inquiry included the conditions of labour in chemical works, the dangers to life and health of the workpeople employed therein, and proposed remedies for these dangers. The exact questions which the committee was appointed to consider were:—

"(1) How far the manufactures, as at present carried on in chemical works, injuriously affect the health of the workpeople; and how far the injurious effects depend upon the age and sex of the operatives.

"(2) What means can be adopted to abate the injurious effects of the manufacture

"(3) What special regulations should be adopted to protects vats and other dangerous places and utensils used in the manufacture."

With regard to alkali works, the bleaching powder department is stated to be the most trying of all to those employed in chemical works, owing to the exposure to chlorine gas, under the system which generally prevails at present. In the "Weldon" chambers, which are most commonly used, a thick layer of lime, 4in. to 6in., is spread on the floor. The chambers are then closed, and strong chlorine gas is turned on, which is absorbed by the lime. At the end of about four days the gas is turned off, the free gas in the chamber is either drawn off by an exhaust or absorbed by a lime distributor, and the doors are opened. The men, about two hours after, enter to pack the powder. As soon as the powder is disturbed by the shovel it gives off chlorine gas, and no man could work in the chamber without some form of respirator. The packers, in order to work in the chambers, wear a respirator, commonly called a "muzzle." This consists of about 30 folds of flannel, damped and tied tightly over the mouth, with the nostrils free and resting on it. The men are obliged to inhale through the muzzle and exhale by means of the nostrils, otherwise they would be "gassed." The exertion of breathing through the thick folds of flannel shows itself by the red and puffed state of the men's faces, and profuse perspiration on coming out of the chambers, which they are obliged to do at intervals during their work. None but strong, healthy men could stand the work. In another process of making the bleaching powder the 'Deacon" chambers are used. Though exposed to some gas, the packers at the Deacon chambers can use a very much smaller "muzzle," which is therefore not nearly so trying. In addition to these, mechanical means have been tried for the manufacture of bleaching powder which would obviate all exposure to the gas. The Hasenclever process, by mechanical means, of which a specification is appended to the report, is said to be now successfully used in Germany. The committee express a strong hope that the old process may shortly be abolished for some mechanical process. Meanwhile they have suggested certain special rules to obviate in some degree the escape of gas for the benefit of those working in and around the chambers.

A special set of rules for persons employed in caustic soda departments has been drawn up, and is recommended for adoption, as well as another set for bichromate works. The manufacture of bichromate of potash or soda is practically in the hands of three Scottish firms. The committee found that almost all the men working where dust was prevalent had either perforation of the septum of the nose or had lost the septum altogether. Many of those employed suffer also from what are technically called "chrome holes" on hands and arms. These are caused by dust or liquor acting on broken skin, or by the handling of crystals. The committee strongly recommend the use of respirators where any dust arises, and the use of gloves where crystals have to be handled. They are of opinion that the due observance of cleanliness on the part of the operatives would largely conduce to the prevention of the evils referred to.

Attention is called to the long hours of work in some departments of alkali works, and the adoption of the eight-hour shift is strongly advised. At the works of Messrs. Brunner, Mond, and Co. this system has been in force for some time, and has resulted in a great improvement in the condition of the health of the men employed. In 1889, before the eight-hour shifts were introduced, 10·12 per cent. of the employees were in the doctor's hands; in 1891 only 5·1 per cent. had to be attended. The committee say:—

"Messrs. Brunner, Mond, and Co. add that the cost of wages paid per ton of alkali produced by them is now no more than it was four years ago, in spite of the fact that the men employed on shift work are paid the same wages for eight hours as they were formerly paid for twelve. This improvement they attribute partly to the improvements *in the apparatus* used, effected at considerable cost, and partly to the increased efficiency of the men due to their better health and sp

As regards the question as to how far the injurious effects upon the age and sex of the operatives, the committee find t females are employed in alkali works, and but few boys under 18 except in cooperages, plumbers' shops, box-making, &c. Mo their inquiries do not lead them to suppose that exceptional mo apart from accidents, exists in them. In conclusion, they belie great good will ensue from the adoption of the proposed rule they strongly recommend that these be issued as soon as p looking at the unfortunate omission in the Factory Act of 1891, w all obligation to fence dangerous pots, pans, &c., was rescinded.

The two medical members of the committee submit a s report dealing with the medical aspects of these questions con more fully than is done in the general report.

PURIFYING BOILER FEED WATERS.

BY C. A. DOREMUS.

SODIUM fluoride is an almost unknown agent for purifying In the following some recent experiences with this agent general methods of softening water are recorded:—

Starting with the idea that is so prevalent, that successful tre of feed waters should be accomplished by such chemical or mech or combined chemical and mechanical treatment, that the incrusti should be removed previous to the water entering the boiler, soon seen that this theoretical ideal was not practicable. Th many waters which yield an incrustation, whose proportion of li magnesium salts is so small that precipitation can not be effecte by the use of feed water heaters or of chemicals. Yet such yield a crystalline scale, and often a scale containing mag hydrate. Surface condensers are frequently leaky, and many boilers starting with good water acquire scale from this cause. festly such waters can only be treated by chemical means in the of concentration in the boilers. From these almost soft waters by upward grade to the excessively hard, which can be purified measure merely by heating or by chemicals. Since, however, sulphate is not completely precipitated at 100° C., feed water he not remove it thoroughly enough to prevent scale, and where wat a permanent as well as temporary hardness due to magnesiu these are not eliminated. When lime, soda ash, or caustic sod combination of any of these is made use of, it is difficult to regu amount required to effect so complete a precipitation that no sc form, and the trouble attendant on this style of purification is s that in many cases it has been abandoned. Water softened by li soda ash, or treated by soda ash or caustic, will generally po alkaline reaction, and is for some purposes therefore unserv The chemical treatment frequently causes the lime salts to sep crystalline form, large masses of great thickness being formed.

In one instance the feed pipe for a battery of boilers, thou inches in diameter, became so incrusted that a one-inch bar co be thrust through it. The water had been treated with soda a afterwards filtered.

At an artificial ice factory using hard well water, the sand filter became hard as stone from the calcium carbonate which lised upon it even after the water had been treated with soda a heated to soften it.

The cost of chemical treatment is often a bar to its empl quite aside from the expense of accessory apparatus, as settling filters, &c., since to be effective at least the theoretical qua precipitant must be used, with soda ash two or three tin quantity.

When sodium fluoride is added to water containing even moderate proportion of lime or magnesium salts a precipitate f once. When added in quantity sufficient to unite with al calcium and magnesium to form fluorides of these metals water is then boiled down the precipitate retains its amorphous ter. Viewed through the microscope, it has always bee powdery and rounded. This circumstance, together with ot siderations, has led to the employment of sodium fluoride direction of scale prevention, and it is pleasant to be able to that to-day it is in successful operation in many section country.

It is not an uncommon practice to employ sodium carbonate in the boiler, transforming the calcium sulphate to carbonat conversion not only of the sulphate of calcium but all magnesi to pulverulent fluorides therefore seemed possible and has prov ticable. Calcium fluoride has a molecular weight about 25 p less than either calcium carbonate or sulphate, or an eq quantity of phosphate, and, therefore, the precipitate or sludg through its use is much more manageable and removable by down the boilers.

At first it was deemed necessary to determine the total calcium and magnesium of the water and often to make a sufficiently complete analysis to determine the salts held in solution, and to calculate from these data the quantity of sodium fluoride necessary to transform the calcium and magnesium to fluorides.

Carefully-made tests have shown, however, that in the greater number of instances a quantity of sodium fluoride one-quarter of this theoretical amount will, if fed continuously, prevent the formation of scale and leave the interior surface of the boiler so smooth that one chief cause of crystals attaching themselves is done away with.

The various types of water from New York to Albany, and from there through the salt district to the lakes at Buffalo, are now under this treatment with entirely satisfactory results The employment of so small an amount of the chemical naturally reduces the cost of purification, while the ease of handling pleases the engineer.

More than once it has happened that the boilers were heavily incrusted when the use of the fluoride was begun. The old scale was found to loosen rapidly, falling off in some cases by the bucketful. In others it was rotted and softened so that on the first cleaning it was easily scraped off. When once thoroughly cleaned to the metal, new scale does not form in such instances.

Live steam is so frequently used now in our large manufacturing establishments for cooking, boiling, &c, and so much condensed steam is used to furnish distilled water, especially in artificial ice manufacture, that a method of treating boiler water in such a way as to furnish pure untainted steam is exceedingly desirable. Since sodium fluoride completes its work without rendering the water alkaline, the steam from water thus treated has proved most excellent for such purposes.

COTTONSEED OIL AS A SOURCE OF RUBBER.

BY C. B. WARRAND.

PRODUCTS from drying vegetable oils having been employed for many years as substitutes for rubber or caoutchouc. A description of their employment in the past will probably be of some interest to our readers, as it strongly indicates the adaptability of cottonseed oil as one of the best substitutes for rubber, if rubber obtained from same is not an artificial rubber.

If linseed oil, for instance, be brought to a thick glue-like consistency by boiling for at least twenty-four hours, and dilute nitric acid be added and the boiling be continued for several hours longer, the linseed oil will be changed to a plastic mass, which will become hard on exposure to the air. On dipping this mass in hot water it regains its softness, and on cooling it hardens again. This product is the caoutchouc or rubber of drying vegetable oil, which can be produced from any vegetable drying oil, but less economically than from linseed oil.

Nitric acid is one of the best oxidizing agents, and the production of this oil caoutchouc is evidently a result of the oxidation of the linseed oil. Just in the same way cottonseed oil can be oxidized and will form a rubber or caoutchouc, although different means have to be used for the effective oxidation of cottonseed oil, as it is not strictly a drying oil, but it is an intermediate between drying and non-drying oils.

This oil caoutchouc is of considerable commercial importance, as it forms the basis of a great number of industrial products. If linseed caoutchouc is mixed with litharge, it is excellently adapted to the manufacture of bougies, catheters, flexible sounds, and many other surgical instruments, and it has been used for this purpose for many years.

The oil caoutchouc can also be readily vulcanised by chloride of sulphur dissolved in benzine or carbon disulphide, with or without the admixture of magnesia, lime or baryta, or various lead, copper, zinc, or antimony oxides. It is also largely used in the manufacture of linoleum or oilcloth; it also makes a very good water-proof material, if a small quantity of natural rubber is added. Linseed oil consists of a mixture of linolein, the glyceride of linoleic acid; about 80 per cent. of the same consists of olein, palmitin, and myristin.

The well-known quality of linseed oil as a varnish is increased by boiling with such mineral substances as are capable of yielding a portion of their oxygen to the oil, thus causing a partial oxidation of the oil. For this purpose plumbic oxide (litharge), red lead, and anhydrous linoxide of magnesia are employed. The last two are used conjointly, and to these oxidizing agents have been added lead oxides, plumbic acetate, zinc sulphate, etc.

By boiling not only does a partial oxidation take place, but by increasing the temperature to between 600° and 700° the mucilage and other impurities of the oil are driven off as a yellow froth, or they are removed by partial destructive distillation.

The partial oxidation which occurs by thus boiling linseed oil is finished when thin coats of this varnish are exposed to the air and sunlight, forming a complete coat of oil caoutchouc, hence the unsurpassed value of linseed oil as the basis of the best known varnishes.

Cottonseed oil consists of 30 to 34 per cent. of palmitin and 66 to 70 per cent of olein, hence it is quite probable that it can be used the same as linseed oil, as in both the predominant part is olein. That it has to be treated differently from linseed oil to obtain the same results is also likely. The palmitin commences to harden at 55° F., and is completely congealed at 32°, while the oil or olein does not congeal above 28°; hence it is an easy matter to separate the palmitin, which is, however, better known as the stearine of commerce, by simply reducing the temperature of the crude oil to 32° F., and expressing the oil in a filter press. This stearine is largely used in the manufacture of refined lard, and while a pound of crude oil is now worth about five cents, the crude stearine is worth some eight or nine cents per pound.

After separating the palmitin the oil has to be refined and bleached before it can be used for culinary purposes or for the manufacture of numberless artificial butter products, called butterine, oleomargarine, etc. This is usually accomplished by the use of carbonate or caustic alkalies and sulphuric acid. Such a treatment of the oil, however, seems to cause some change in the oil which renders it incapable of further oxidation. By long exposure to the air and sunlight this refined oil does not thicken and oxidize, but it becomes rancid and acrid; hence experiments to produce rubber from refined oil of commerce will always fail, while it is comparatively an easy matter to oxidize crude cottonseed oil deprived of its stearine

Some five or six years ago an English inventor sold to an American rubber manufacturer for a considerable amount a secret process for manufacturing cottonseed oil into rubber. Since then this secret has become the property of the Rubber Trust. This process has been used ever since, and it is a matter of fact that large quantities of cottonseed oil are now being used by at least fifteen or sixteen rubber factories in the United States to produce a substitute for rubber. This is in the United States alone. I do not know to what extent this process is being used in England and on the Continent, but as it originated in England, it is probably used to some extent there also.

By this process the converted cottonseed oil costs about seven cents per pound. The admixture of this substitute has been limited to about 15 per cent, as it is not deemed advisable to exceed this amount without deteriorating the quality of the rubber product.

The specific gravity of crude cottonseed oil is 0·93; if the palmitin is removed the gravity of the remaining oil is lowered to 0·921. By boiling the oil for some time the impurities are removed, and the specific gravity is lowered a little more; but by my experiments the specific gravity increases as the oxidation of the oil proceeds. What I considered perfectly oxidized oil or finished rubber has a gravity of 0·925, which is identically the same as that of pure rubber.

There is no known way to ascertain the quantity of pure rubber employed in finished products by the way of a chemical analysis. The only known way to approximate the purity of finished rubber products is by the specific gravity of the same. Hence a substitute which has the same specific gravity, the same elasticity, the same faculty to vulcanise, is a very valuable substitute, if it is not of identically the same chemical composition.

Rubber is composed of nine atoms of carbon and seven of hydrogen. It is, however, quite probable that there is a more complex mixture of various hydrocarbons, which have so far not been ascertained.

The composition of olein is eighteen atoms of carbon, thirty-four atoms of hydrogen, and two atoms of oxygen. This formula divided by two would give nine atoms of carbon, the same as rubber, seventeen atoms of hydrogen, and one atom o oxygen. Assuming that ten atoms of hydrogen were combined with the atom of oxygen, and other oxygen from some other source—from the atmospheric air, for instance, by heat, sunlight, or electricity; or from some oxidizing agent like ozone—the result would be chemically pure rubber and water, which would evaporate.

SOCIETY OF CHEMICAL INDUSTRY: *London Section.*—The next meeting of this section will be held on January 8th, 1894, in the rooms of the Chemical Society, Burlington House, at 8 p.m., when "A Discussion on the Report of the Patent Law Committee" will take place.

ADULTERATED MILK.—At the Manchester City Police Court, John Baker, shopkeeper, Bentinck-street, Hulme, and Jos. Clay, milk dealer, Augustus-street, Stretford, were charged recently with selling adulterated milk. Baker's shop was visited by an inspector, who took a sample of the milk, which upon analysis showed that 30 per cent. of fat had been extracted. This defendant, however, pleaded that the milk was sold in the same condition as it was got from Clay, who supplied him. Thereupon a sample of milk sold by Clay was taken and found to be deficient in fat to the extent of 35 per cent. In both instances there was also a small percentage of added water. The defendant Clay, who urged that he retailed the milk in the same condition as he received it at the railway station, was fined £10 and costs. The summons against Baker was withdrawn.

FERTILISERS AND FEEDING-STUFFS ACT, 1893.

THE Fertilisers and Feeding-Stuffs Act, passed on September 22nd last, came into force on the 1st inst., and undoubtedly, for the ordinary operations of the farm, its most important provisions are those which require the vendor of a fertiliser or feeding-stuff to give in all cases to the purchaser an invoice stating the nature of the article sold, such invoice to have the effect of a warranty that the article is of the quality stated. The Act imposes penalties for breaches of this and other requirements, but proceedings for penalties are to be without prejudice to any civil liability. In view of this civil liability, the Royal Agricultural Society, which, as is well known, has taken the lead in endeavouring to repress the adulteration of feeding-stuffs and artificial manures, has prepared a number of suggestions and instructions for the guidance of its members in their general farming transactions, having regard to the ordinary rights and liabilities of vendors and purchasers at common law. Where it is desired to institute a prosecution for any offence under the Fertilisers and Feeding-Stuffs Act, the special procedure prescribed therein should be adopted, but a purchaser is recommended in all cases to insist on having an invoice, and to see that such invoice contains the following particulars:—In the case of fertilisers—(1) The name of the fertiliser; (2) whether the fertiliser is artificially compounded or not; (3) the *minimum* analysis of the fertiliser in respect of its principal fertilising ingredients. In the case of artificially-prepared feeding-stuffs for cattle—(1) The name of the article; (2) the description of the article, whether it has been prepared (*a*) from one substance or seed, or (*b*) from more than one substance or seed.

For example, (*a*) an invoice describing an article as "linseed cake" implies a warranty that the article is pure—*i.e.*, is prepared from linseed only; "cotton cake" (whether decorticated or undecorticated), and "rape cake" (for feeding purposes), would come under a similar category. Purchasers are reminded that the use of such terms as "95 per cent.," "oil cake," &c, affords no security against adulteration; (*b*) in the case of a compound cake or feeding-stuff, a vendor is only compelled by the Act to state that it is prepared from more than one substance, and he is not required to specify the particular materials used in its preparation. Purchasers are recommended, therefore, to buy mixed feeding cakes, meals, &c., with a guaranteed analysis. Any statements in the invoice as to the component parts of such mixed cake or meal will take effect as a warranty, as also will any statements in an invoice, circular, or advertisement as to the percentages of nutritive and other ingredients in any article sold for use as food for cattle.

Members of the society are strongly recommended, therefore, not only to see that the invoices given to them accurately describe the goods they have ordered, but to make all their orders subject to the analysis and report of the Consulting Chemist of the Royal Agricultural Society of England, or one of the other well known analysts.

Appended to the suggestions are recommendations as to the qualities of fertilisers and feeding-stuffs which purchasers should demand, and instructions for selecting and sending samples for analysis.

LEAD POISONING.

THE committee appointed to inquire into the health of the employés in the pottery trade, in dealing with lead poisoning, state that: "It is clear from inquiries made by this committee that a large part of the mortality from lead poisoning is avoidable, although it must always be borne in mind that no arrangements or rules with regard to the work itself can entirely obviate the effects of the poison to which the workers are exposed, because so much depends upon the individual and the observance of personal care and cleanliness. There are several ways in which the poison can be introduced into the system. It is sufficiently proved that dust charged with lead finds its way usually through the stomach, and also, in all probability, through the respiratory passages. When in the form of moist glazes it also enters through the skin. It undoubtedly gains access into the body by—(*a*) eating food with unwashed hands or partaking of it in the rooms where lead is dealt with; (*b*) neglect of cleanliness of clothing; (*c*) allowing glaze and colours to drop about, become dry, and so form dust that gets inhaled; (*d*) holding the pencil used in painting in the mouth, as is often done by majolica paintresses; (*e*) rubbing the eyes with dirty hands; (*f*) near sightedness, causing the workers to be too close to their work; (*g*) some constitutional idiosyncrasy producing excessive susceptibility to the poison of lead. At the same time, experience proves that many persons using lead glazes and colours, work for a long series of years without manifest injury to their health. These are the careful ones. On the contrary many break down quickly; this is especially the case with young women and lads, with whom the influence of sex and age is a factor to be remembered, apart from that of careless habits. Another of some import is that of being ill-fed and debilitated. It is easy to tell at a glance between those likely to resist the action of the poison or to succumb to it by noting their personal cleanliness, their c workplaces, and other surroundings." On this question interesting statistics have been prepared by Mr. Hordley, the a secretary of the North Staffordshire Infirmary, showing the comp number of indoor patients treated in that institution in a series c for lead poisoning among potters. Mr. E. J. Hammersley, se of the North Staffordshire Provident Society, has also prepared showing the ratio of lead cases among the members of the Staffordshire Provident Society. In each case the tables s striking diminution of the number of deaths from plumbism recent years. It is, however, fair to note that the diminu plumbism of late years is partly due to the reduced produc majolica ware during the last five years, and also to the enfor of the order of the Secretary of State of December, 1882, proh the taking of meals in majolica painting shops. The higher wages obtainable by dipping-house labour acts as an inducer women and young persons to engage in it, and also to continue t even when aware of its ill effects upon their health; and it bec subject for serious consideration whether a periodical exam should not be insisted upon in the instance of all workers with l be made by the certifying surgeons visiting the factories.

NOTICES.

LONDON AGENTS

Booksellers and Newsagents may now obtain supplies of
THE CHEMICAL TRADE JOURNAL
From
MR. JOHN HEYWOOD,
2, Amen Corner,
On usual trade terms. Paternoster Row, E

FOREIGN REMITTANCES.

Owing to the inconvenience created by the various ways in foreign subscriptions are remitted, we respectfully beg to subscribers that a *Crossed* MONEY ORDER is the most satis method of remitting, both for them and ourselves. In the ca Money Order, a letter advising us of same should always b otherwise, owing to post-office formalities, much delay in traci acknowledging foreign remittances is inevitably entailed in this c

Trade Notes.

PERSONAL.—Among those upon whom the Queen has signifi intention of conferring the honour of a Baronetcy is *Mr. T. Fry*, iron manufacturer, of Darlington; *Mr. J. Norman Lockyer*, F will also be made a Companion of the Bath.

LECTURES ON COAL GAS.—Professor Vivian B. Lewes has engaged by the Corporation of West Ham to deliver a course o lectures, in connection with the Corporation's scheme of te education, on "The Chemical Technology of Coal Gas." The will commence on the 23rd inst.

CONSUMPTION OF DYES IN SYRIA.—The aniline dyes consu Syria are chiefly supplied by the German works of Hochst, near fort-on-the-Main, and Stuttgart, which have the monopoly o articles, of which the consumption, although almost *nil* in the s Syria, is of considerable importance in the north.

BACTERIOLOGICAL CLASSES.—These classes at King's C London, which have previously been referred to in these columr being continued through this year. There are two courses, one of g bacteriology, and one on the bacteriology of fermentation. Fu ticulars can be had from Dr. Hewlett, King's College, London.

A FATAL FIRE.—A serious fire occurred last week on the pr of the British Xylonite Co., Limited, Homerton, London. An a to subdue the flames was made by the company's fire brigade, whose members, George Taylor, aged 30, was burned to death. Metropolitan Fire Brigade had afterwards to be summoned, and tually succeeded in extinguishing the fire.

THE STATE OF THE CHEMICAL TRADES.—In the Tyne and districts the chemical trade is reported as quiet. The glass trade shows signs of improvement. The bleaching and finishing about Oldham and Bolton are rosier than they have been for time, and work is more regular. The dyeing and printing trade Burnley and Accrington are also brisk, and in some cases overt being worked. The dyeing trade, however, is but moderate in chester district. At St. Helens and Widnes the chemical and industries are resuming their normal state after the coal strike. around Barrow both paper and pulp works are busy. Seed cr mills in the Hull district are in full work, and some colour and v works are fairly busy.

THE LABOUR COMMISSION.—The Royal Commission on Labour will not meet again until the 23rd January. Meantime no estimate can be formed of the time when a report can be completed and ready for presentation, but it is quite expected that several months must elapse before Parliament and the public are put in possession of the conclusions and recommendations of the majority of the Commission. It was known fully six months ago that a minority report would be drafted, and probably there may be two such reports.

BEQUEST TO MASON COLLEGE.—The sum of £600 per annum has been bequeathed to the trustees of the Mason College, Birmingham, by the late Mr. Aubrey Bowen, of Melbourne, a well-known expert in eye diseases. In making the bequest the testator stipulates that the trustees shall, within a reasonable time, undertake to apply the sum in founding six scholarships of £100 a year each in connection with the college, to be called respectively the First, Second, and Third Bowen Scholarships, for the promotion of the study of metallurgy, and civil, mechanical, and electrical engineering; and the First, Second, and Third Priestley Scholarships, for the promotion of the study of chemistry.

THE DANGERS OF MINERAL OILS IN MINES.—In a paper on this matter Mr. N. Atkinson suggests, as preventative measures, that lamprooms should not be located underground; mineral oil should not be stored in mines, even in small quantities; the use of petroleum engines should not be resorted to in dry mines; furnaces and boiler fires underground should be avoided as much as possible. He also urged the importance of keeping the escape route free from impediments. Mr. Atkinson now added that he was glad to observe that the use of the flaming torch had been abolished in many cases, and he hoped it would soon be abolished altogether. It was no doubt one of the greatest sources of danger from fire underground.

THE SHARON CHEMICAL COMPANY LIMITED.—The directors of this Company report that notwithstanding the incidence of the recent colliers' strike on the operations of the Company by increasing the price of fuel and its consequent scarcity, the profits for the last six months justify, in their judgment, the declaration of an interim dividend on the whole of the called-up capital of the Company at the rate of five per cent. per annum for that period, the same as was paid for the first half of the year. This result, in the face of such adverse conditions, must be regarded as a proof of the correctness of the anticipations regarding the effect of the improvements that have lately been made in the works.

THE REPORT ON RAILWAY RATES.—A second report from the Select Committee on railway rates and charges was issued a short time since as a Parliamentary paper. The committee, after reviewing the action taken by various railway companies in relation to the levying of maximum charges, express the opinion that some further step must be taken to protect traders from unreasonable increase of railway rates even within the maximum charges defined by Parliament, and from the imposition of such unreasonable conditions of transport as cannot now be made the subject of arbitration. They are of opinion that where a trade complains of an excessive or unreasonable increase of rates and an amicable settlement between trader and company is not achieved under the conciliation clause petitioner should be at liberty to go before the Railway Commission, and that such commission be empowered to decide whether or not such rates be unreasonable. The committee recommend that the power thus proposed should be retrospective to the extent that traders petitioning the Board of Trade within reasonable time in respect of rates increased within the present year should be allowed to go before the Railway Commissioners in the manner recommended. It has been suggested that the Board of Trade should appoint an arbitrator, but the committee consider the appointment of a single arbitrator from time to time would not give satisfaction, and would not be a satisfactory solution of the difficulty. The committee think, however, that one member of the commission should be experienced in trade, and that the appointment of commissioners should be open to revision.

Market Reports.

MISCELLANEOUS CHEMICAL MARKET.

There is a brisk demand for all products of the alkali trade, and for bleaching powder, caustic soda, and alkali, the makers have been unable yet to overtake arrears of orders which accumulated during the recent stoppage of works. Bleaching powder is selling freely for prompt delivery at £7. 15s. nett, f.o.r. makers' works, and £8. 5s. to £8. 10s. for export, f.o.b. Liverpool, Tyne, etc. In caustic soda, prices vary according to the market for which it is destined; the lowest prices are ruling for home trade, and contracts for 1894 have been taken at low figures. Spot values current are as follows:—f.o.b. Tyne, 77%, £11. 5s.; f.o.b Liverpool, 74%, £10. 5s.; 70%, £9. 5s.; 60%, £8. 5s; cream, 60%, £8. per ton, 10-ton lots and upwards. Saltcake still remains practically unsaleable. Soda ash is in moderate demand; price is unchanged. Recovered sulphur dull at £4. 2s 6d., rails, makers' works. Chlorate of potash quoted at 8d. by makers, but there are resale lots offering at 7¾d.; soda can be obtained at 8⅜d. to 8½d. Sulphate of copper steady at £16., f.o.b. Ammonia salts continue very firm. Grey muriate quoted £23. to £24. per ton. Carbonate (lump) 3¾d., powdered 4d. per lb Salammoniac advanced £2. per ton, firsts 39s., seconds 37s per cwt. Acetate of soda dull at £16. Acetates of lime, brown and grey, continue to move satisfactorily at former prices; for forward delivery prices are rather easier. Acetates of lead unchanged White powdered arsenic strong at £13. 10s. nett, Garston. Oxalic acid in better request at 3d. to 3¼d. Yellow prussiate of potash sells slowly at 10¾d.

REPORT ON MANURE MATERIAL.

The holidays have seriously interfered with business during the week, and there is very little to report. Mineral phosphates: the position of 75/80% Florida is decidedly stronger, and as there continue to be large buyers for the Continent and for the Baltic at full prices, the value for good United Kingdom ports cannot now be quoted under 8¾d. per unit, c.f. & i. For South Carolina and Peace River rock 7¾ to 8d. per unit asked, but these prices are probably somewhat above actual values, at any rate for shipment far ahead. We do not hear of any further business in River Plate bones, the latest sale having been done at £4. 15s., early December sailing. For forward shipment £4. 12s. 6d. asked. Sales of crushed Kurrachee bones have been made at £4 12s. 6d., March-April steamer shipment, but for anything near at hand £4. 17s. 6d. or, perhaps, £5. would have to be paid. The quay has been cleared of recent arrivals of East Indian bone meal, and £5. required for anything now on the way. Probably £4. 18s. 9d. would be accepted for shipment. Nitrate of soda seems to be somewhat firmer since the turn of the year, and spot price has been advanced to 9s. 3d. and 9s. 4½d. per cwt., according to test. Due cargoes are worth about 9s. 2¼d., and November sailings 9s. 3d. to 9s. 4½d. per cwt., according to size and test. There is nothing doing in miscellaneous material.

TAR AND AMMONIA PRODUCTS.

Benzol shows no change for the better with the new year, 90's being quiet at 1s. 5d, and 50/90's at 1s. 6d. Crude naphtha is rather firmer at 9d. Creosote keeps steady. Crude carbolic, 60's, remains without change, while the nominal quotations for anthracene, A and B, are maintained. Pitch rules firm at 29s. to 29s. 6d. f.o.b.

The Sulphate of Ammonia market in general is firm, though the change in the weather has created a paucity of buyers in some districts. Beckton terms are £13. 10s.; London and Liverpool, £13. 7s. 6d.; Hull, £13. 5s.; and Leith, £13. 7s. 6d. to £13. 10s. The present lull is very largely due to natural causes, so that makers need not be shaken in their adherence to current quotations. There is good reason to expect a firm market when the demand picks up again, so that holders should be duly cautious concerning concessions.

THE METAL MARKETS.

LONDON, WEDNESDAY.—Pig iron quiet: Scotch warrants closed at 43s. 5½d., Middlesbrough 35s. 6½d. cash, and hematite 45s. 3d. Copper, dull: Chili bars, G.O.B.'s and G.M.B.'s, closed at £42. 12s. 6d. to £42. 17s. 6d. cash, and £43. 1s. 3d. to £43. 6s. 3d. three months. Tin, inactive: Straits closed at £73. 10s. to £74. cash, and £74. 7s. 6d. to £74. 17s. 6d. three months; Australian, £73. 15s.; English ingots, £78. Lead, quiet: Spanish, £9. 10s.; English, £9. 12s. 6d. to £9. 15s. Silesian spelter: ordinary, £16. 12s. 6d. Nickel, 1s. 8½d. Antimony, £37. 10s. Quicksilver: First hands, £6. 5s.; second hands, £6. 4s. *Copper shares*, dull: Cape, 1⅜ to 1½. Copiapo, $1\frac{13}{16}$ to $1\frac{15}{16}$. Libiola, $3\frac{1}{16}$ to $3\frac{3}{16}$. Mason and Barry, 1⅞ to 2. Rio Tinto, 14⅝ to 14¾. Tharsis, 4¾ to 5.

WOLVERHAMTON, WEDNESDAY.—The first 'Change for the New Year was marked by a healthier tone, and although current business was limited, prospects were declared more favourable than recently, and a tolerably good trade was anticipated for next week's quarterly meetings, prices meanwhile being firm in all departments. Cinder pigs, 37s. 6d. to 40s.; medium, 46s.; and best, 57s. 6d. to 60s. Common bars £5. 17s. 6d., and merchant sections £6. 5s. Plain sheets, singles, £6. 17s. 6d.; and doubles, £7. to £7. 5s.

GLASGOW, WEDNESDAY.—Market firmer, with moderate business. Scotch done at 43s 5d., 43s. 4½d., and 43s. 5½d. cash, also at 43s. 7½d. and 43s. 8½d. one month; closing with buyers at 43s. 5½d. cash, sellers ask 43s 6d. Cleveland done at 35s 6½d. and 35s 7d. cash; closing with buyers at 35s. 6½d. cash; sellers ask 35s 7d. Cumberland hematite closes with buyers at 45s. 3d. cash, sellers ask 45s. 4d. Middlesbrough hematite closes with buyers at 43s. 3d. cash, sellers ask 43s. 6d. Copper closes with buyers at £42 11s. 3d.

LIVERPOOL OIL AND COLOUR MARKET.

WEDNESDAY.

OILS.—Palm oil is easier, but steady at the reduction, Lagos now being obtainable, both for spot and to arrive, at £22. 15s Olive is fairly active, with Syrian at £32. to £33 per tun and Malaga £33. There is a firmer tone in Liverpool makes of Linseed, prices for which in export casks are 20s. 6d. to 21s 6d. per cwt. Cottonseed, Liverpool refined, is steady, values ranging (according to quality) from 20s. 6d. to 22s per cwt. The market for Castor oil is rather slow, but on the whole may be considered steady, with good seconds Calcutta at 2½d., and first pressure French at 2⅝d. per lb. Tallow is scarce, and business is consequently dull, values being unaltered. In Resins values are maintained, and there is a moderate all round business doing. Spirits of Turpentine cannot be had on spot under 22s. 6d. per cwt., and are firm thereat. Petroleum is quiet, with American at 4¼d. to 5¾d., according to quality, and Russian refined, 3¾d. per gallon.

COLOURS are steady without alteration in prices. Ochres: Oxfordshire, common, £10., medium, £12., best, £15.; Derbyshire, common, 40s; medium, 50s., best, 60s.; Welsh, best, 70s., seconds, 50s., and common, 18s.; Irish, Devonshire, 40s. to 45s.; French, J.C., 55s. to 60s.; M.C., 65s. to 67s. 6d. Umber: Turkish quiet; Devonshire, 50s. to 55s. White lead, red lead, and oxide of zinc unchanged. Venetian red, £6. 10s. to £10. Cobalt: Prepared oxide, 9s. 9d.; black, 9s.; blue, 6s. Zaffres: No. 1, 3s. 6d.; No. 2, 2s. 6d. Oxide of iron: Common, £6.; medium, £10.; finest, £20. Zinc oxide, £23. to £25.

TYNE CHEMICAL REPORT.

TUESDAY.

There is no change to report in chemicals, and prices remain unaltered. Business in caustic soda has been rather brisker, and orders are being more freely booked. Bleach continues quiet, and sulphur dull.

Bleaching powder, softs, £7. 15s. per ton, nett; hards, £8 per ton, nett; caustic soda, 76/77%, £10. 15s. per ton, nett; 70%, £9. 5s. per ton, nett; recovered sulphur, 2 cwt. bags, £4. 5s. per ton, nett; soda ash, 48%, £3. 15s per ton; 52%, £4. 2s. 6d. per ton; 56%, £4. 10s. per ton, nett; alkali, 36%, £3 per ton, nett; white alkali, 48%, £4. 10s per ton; 50%, £4. 15s. per ton; 52%, £5. per ton, nett; hyposulphite of soda, in 5-7 cwt. casks, £7. per ton; ditto, in 1 cwt. kegs, £7. 15s. per ton, nett; silicate of soda, 75° Tw., £2. 15s. per ton, nett; 100° Tw., £3. per ton, nett; 140° Tw., £3. 17s. 6d. per ton, nett; soda crystals, in casks, £1. 10s. per ton gross weight; in 2 cwt. bags, £2. 10s. per ton nett weight; chlorate of potash, 8½d. per lb. less 6%; pearl hardening £3. per ton, nett; pure white sulphate of alumina, £4. 2s. 6d. per ton, nett; blanc fixe, £7. 10s. per ton, nett; chloride of barium, £7. 10s. per ton, nett; carbonate of alumina, £28. 15s. per ton, nett; aluminate of soda, £33. 15s. per ton, nett; in 5 ton lots, £28. 10s. per ton, nett; hydrate of barium, £10. per ton, nett.

South Durham salt, 9s to 9s 6d. per ton net. f.o.b. Tees.

Coals: The market is still unsettled, though there is yet a fair demand for prompt. Considerable business has taken place for 1894 delivery, coalowners having somewhat modified the prices originally asked for "forward." Best Northumbrian steam, 12s. per ton; second quality, 10s. 6d. and 11s. per ton; small steam, 5s. 6d. per ton; bunker coals, 10s. per ton; gas, 11s. 6d. per ton. Coke firm, at 16s per ton.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, TUESDAY.

Since Friday evening production of chemicals has practically ceased in this quarter, and since Christmas buying and selling transactions have largely fallen short of their normal proportions. These are, of course, effects of the holiday season, and it will be well on towards the close of the present week before the normal tone is recovered. Speaking in the absence of the usual market indices there is less of certainty, but prices are not likely to be materially changed in the case of any article. Soda crystals are easier to the consumers at home, but the export value is maintained.

It is believed that in sulphate of ammonia there are momentary at a reduction, but the article in the general sense is held as still and sure of a brisk demand for some time to come.

Mineral oils and paraffins continue in a substantial bulk of to contracted buyers, and the values of burning oil in second-ha still fractionally higher than contract prices.

Chief prices current are:—Soda crystals £2. 7s. 6d. nett, Tyn ash £3. 17s. 6d. nett, Tyne; white alkali 48/52° £4. 10s nett, Tyne; alum in lump £5. nett, Glasgow; caustic soda, wh £10. 10s., 70/72° £9. 5s., 60/62° £8. 5s., and cream 60/6 all nett, Liverpool; bleaching powder £7. 15s.. nett, saltcake, 20s; borax, English refined, £30., and boraci £37. 10s. nett, Glasgow; bicarbonate of soda, 5-cwt. casks, £ and 1 cwt. casks £6. 15s. nett, Liverpool; bichromate of 4½d. nett, for Scotch and English deliveries (for export, 4¼ f.o.b. Glasgow); bichromate of soda, 3¾d. nett, for Scotch and deliveries (for export, 3½d. nett, f.o.b. Glasgow); chlorate of 8¼d. less 5%, Liverpool; nitrate of soda, 9s. 3d; sulphate of an £13 7s. 6d. to £13. 10s. od. prompt, f.o.b. Leith; salammoni and second white, £37. and £35. nett, any port; sulphate of £15. 15s. less 5% Liverpool; paraffin scale, hard 1⅞d., and soft 2d per lb.; paraffin wax 120° semi-refined 2⅜d.; paraffin spirit (n 4½d. per gallon; paraffin oil, burning, standard No. 1 grad ditto (lubricating) 865° £4. 7s. 6d. to £4. 10s., 885° £4. to £ and 890/895° £5. to £6. Week's imports of raw sugar at Gl were 92,881 bags.

HULL PAINT, OIL, AND COLOUR REPOR

TUES

OILS.—The New Year opens very unostentatiously, the here being the first to change under its influence, other hopeful being the slight advance in freights, and a reduction in the fuel, a feature of the week's imports being the large import of tine and resin, the total of the former being 14,898 cwts. and 4,804 cwts. A tank steamer arrived during the week, the total cargo being 765,240 gallons, there being also a considerable inc the import of tallow. For the first time during six months th an increase recorded in the export of coal. Oils showed a cons decrease, the total of linseed oil being 405 cwts., against 494 c the same week a year ago, and cottonseed oil 3,905 cwts, again cwts. Linseed oil is steady at 19s. 3d. naked spot, and there ar January/April or May/August at 19s. September/December is at 18s 9d., ditto boiled and refined from £1 to £2. per to Refined cotton oil closes quiet at 18s. 7½d. naked spot, and th sellers for January/April at 18s. 4½d. Olive oil scarcer. coast is dearer, and quoted from £17. 10s. to £19. 10s. Herring oil, £16. Sod oil in good demand, £15, to £17. Resin oil, £7. per ton. Pale seal oil from £21; turpentine, 22s., free. First pressure castor oil, 2⅝d. per lb. Resin common scarce, cheapest £4. 10s, per ton. Anti-Friction grease fro Brown wool grease, £8. per ton. Engine and cylinder oils fro 2s per gallon.

CAKES.—Linseed cakes a firm market, 95 per cent. pure, £ ordinary, £7. 5s. to £7. 10s.; Russians, £8. 10s. Cotton cak best makes, spot, £5. 5s.; January/April, £5 to £5s. 2s. 6d. cakes: Black Sea, £4.; East India, £4. 7s. 6d. The following stocks of seed in Hull at the end of each of the past two month

	Month ending Dec. 31.		Month ending Nov. 30.
Linseed	15,413 qrs.	.....	6,074 qrs.
Rapeseed	11,555 qrs.	.....	1,175 ,,
Cotton Black.....	1,695 tons	.....	—
,, White.....	1,281 tons	.....	2,154 tons.

PAINTS.—The paint and colour trade remains quiet, manuf being busy stock-taking. The export of painters' colours was increase upon the same week a year ago, but chemicals fell nea half. The prices are:—Oxide of zinc, £22. per ton; white l leads unchanged; oxide of iron from £9. to £18. per ton; red, dry, £6. to £10.; oak varnish from 5s. 6d per gallon; black varnish, £5. 10s. per ton in barrels. Ready-mixed pa various sized tins, from £26. per ton.

New Companies.

Brighouse Soap Company, Limited. CAPITAL, £1,500, i of £1. each. This company has been formed to take ov carry on the business of soap manufacturers, formerly carried Faucon, Rochestte & Co. and J. Heaton, at Brighouse.

Lancashire Brick and Terra Cotta Company, Limited. CAPITAL, £6,000., in shares of £50 each. This company has been formed to mine minerals, etc., and to carry on the business of brick and tile manufacturers.

S.S. Syndicate, Limited. Capital, £15,000. in shares of £10 each. This company has been formed to refine and evaporate salt, etc., and to carry on the business of chemical manufacturers, engineers, distillers, etc. The subscribers to the memorandum of association are:—J. S. Sheldrick, 1, Crosby-square, London, E.C., secretary; J. L. Langworthy, 18, Birchin-lane, London, E.C., gentleman; F. Baring-Gould, Beeches, Winchester; J. T. Gow, 30, Brunswick-square, Lonpon, W.C., gentleman; J. C. Lewis, 8, Finch-lane, London, E.C., merchant; J. Mitchell, 222, Upland-road, London, S.E., gentleman; C. T. Pulley, 13, Copthall-court, London, E.C., gentleman.

The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of George E. Davis and Alfred R. Davis, who report professionally upon the value of Chemical Patents.

APPLICATIONS FOR ENGLISH LETTERS PATENT.

Making Solid Colouring Matters from Logwood Extract, etc. P. R. J. Willis. 24,365. December 18.

Improvements in Filters. W. Railton and R. Campbell. 24,411. Dec. 19.

Process and Apparatus for Solidifying Petroleum. J. Livingstone. 24,412. December 19.

Smoke Consuming Apparatus. E. E. Dulier. 24,422. December 19.

Rendering Wood Incombustible. O. Hesterich. 24,424. December 19.

New Explosive. H. Boyd. 24,425. December 19.

Manufacture of Briquettes from Coal Dust. R. Fegan. 24,432. Dec. 19.

Artificial Manure. A. R. O. Pieper. 24,465. December 19.

Evaporating and Concentrating Liquids by Means of the Heat of an Electric Current. J. T. Bottomley. 24,472. December 20.

Improved Treatment of Hydrochloric Acid for the Production of Chlorine. J. R. Wylde and N. Glendinning. 24,475. December 20.

Manufacture of Cellulose Pulp. J. Y. Johnson. 24,503. December 20.

Protecting Shafts Exposed to Corrosive Action. H. C. Ashlin and J. Daglish. 24,504. December 20.

Cleansing Filtering Material. H. Reisert. 24,526. December 20.

Production of Carbonic Acid. E. Grote and C. Glenck. 24,542. Dec. 20.

Refrigerating Machines. E. Hesketh and A. Marcet. 24,544. Dec. 20.

Distilling Glycerine and Treating Residual from such Distillation. Jos. van Ruymbeke. 24,556. December 20.

Manufacture of Magnesium Hydrate. M. N. D'Andria. 24,563. Dec. 21.

Filters. A. J. Boult. 24,617. December 21.

Utilising Asbestos for Vapourising Liquids, and Distilling Mineral Oils. A. Farinetti and F. F. E. Heyse. 24,632. December 21.

Substitute for Celluloid or Bone. W. M. C. Callender. 24,652. Dec. 21.

Improved Bunsen Burners. T. E. Bicklf. 24,662. December 22.

Improvement in Metallic Alloys. W. Wright. 24,685. December 22.

Improvement in Metallic Alloys. D. W. Sugg. 24,704. December 22.

Production of Ozone from Phosphorus for Disinfecting. Soren F. Kattenhoy. 24,709. December 22.

New Washing Powder. Veuve Contant. 24,724. December 22.

Improvements in Water Filtering Apparatus. J. F. Crease. 24,726. December 22.

Improvements in Concentrating Sulphuric and Acetic Acids. A. J. Boult. 24,739. December 23.

Apparatus for Boiling Sugar and Glucose. E. Shaw. 24,743. December 23.

Utilising the Pressure in Compressed Gas Cylinders or Reservoirs. Manchester Oxygen Co., Ltd. and W. M. Jackson. 24,761. December 23.

Recovering Tin and Enamel from Waste Tinned or Enamelled Iron or Steel. W. Hayward, senior. 24,796. December 23.

IMPORTS OF CHEMICAL PRODUCTS
AT
THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending December 23rd.

Acetate of Lime—
U. States, 2,088 pkgs. Johnson & Hooper

Acetic Acid—
Holland, 345 pkgs. Beresford & Co.

Alkali—
Germany, 80 c. T. H. Lee
Belgium, 80 ,,
France, 203 P. Hecker & Co.

Alum—
Belgium, 25 pkgs. R. W. Greeff & Co.
Germany, 100 pkgs. ,,

Aluminium Ore—
Belgium, 18 c. Major & Field

Ammonium Chloride—
Holland, 5 pkgs. Kaltenbach & Schmitz

Anthracene—
France, 44 pkgs. Burt, Bolton, & Co.

Antimony Ore—
Corsica, 100 t. Smith, Sundius, & Co.
Salonica, 4 L. & I. D. Jt Co.

Asbestos—
France, £183 Mory & Co.
Italy, 94 L. & I. D. Jt. Co.
,, 130 Brit. Asbestos Co.
,, 100 Cape Mint Syndicate

Barytes—
Holland, 24 cks. J. Sauer
Belgium, 19 J. L. Lyon & Co.
,, 80 W. Harrison & Co.

Boracic Acid—
Italy, 8 pkgs. B. & N. Wf Co., Ltd.
,, 2 Hodgkinson & Co

Caoutchouc—
France, 2 c. H. Johnson & Sons
Savanilla, 9 Stiebel Brs
,, 51 Prop. Bull Wf.
Greytown, 30 R. G. Hall & Co.
,, 77 Price, Hickman, & Co.
Zanzibar, 18 L. & I. D. Jt. Co.
E. Indies, 300 Huttenbach & Co.
,, 66 E. Boustead & Co.
P. E. Africa, 30 S. Figgis & Co.
,, 14 R. D. Warburg & Co.
Madagascar, 149 Procter Brs.
Peru, 140 c. F. Huth & Co.
Argentine, 44 Prop. Bull Wf.

Carbolic Acid—
Holland, 27 pkgs. Phillipps & Graves

Castor Oil—
Italy, 10 cs. W. J. Bush & Co.
,, 10 Corbyn, Stacey & Co.
,, 25 Major & Field
France, 10 brls 28 pkgs. Beresford & Co.
,, 60 J. Swire & Sons
,, 20 J. T. Morton
,, 12 F. V. Smythe & Co.
,, 12 L. & I. D. Jt Co.
,, 52 Lucas & Spencer's Wf. Ltd.
Italy, 5 cs. A. Laming & Co.
,, 8 W. E. Alywin
Belgium, 10 brls. Fuerst Brs

Caustic Potash—
France, 41 drs. Carey & Sons
,, 10 Spies Brs., & Co.

Caustic Soda—
Holland, 100 c. Beresford & Co.
Belgium, 17 ,,

Chemicals (*otherwise undescribed*)
Germany, £11 Pickford & Co.
,, 92 pkgs. T. H. Lee
,, 63 A. & M. Zimmermann
,, 41 A. Thumann & Co.
Holland, 16 L. C. & D. Rly.
Germany, 5 Phillipps & Graves

Cream of Tartar—
Italy, 8 pkgs. W. Isted
U. States, 17 B. & F. Wf. Co., Ltd
France, 3 G. Ward & Sons
,, 5 C. Christophersen & Co.
,, 15 W. C. Bacon & Co.
,, 15 C. F. Gerhardt
,, 2 Ross & Deering
Spain, 6 B. & F. Wf. Co., Ltd.
Italy, 2 W. C. Bacon & Co.

Dextrine—
Germany, 100 pkgs, Pronk, Davies, & Co.
Holland, 10 J. Graves
,, 80 W. G. Jacobs
Germany, 300 W. Balchin
,, 120 M. D. Co.

Dyestuffs—
Aniline
Germany, 1 pkge. L. Creen
Argols
Italy, 452 pkgs. Thames S. T. & L. Co., Ltd.

Cochineal
Canaries, 87 pkgs. Swanston & Co.
,, 68 W. M. Smith & Sons
,, 20 G. S. Bruce
,, 37 Johnson Hicks, & Co.

Cutch
E. Indies, 340 pkgs. R. G. Hall & Co.

Extracts
Denmark, 6 pkgs. R. J. Fullwood & Co.
France, 150 L. J. Levinstein & Son
,, 1 Bennett S. S. Co

Gambier
E. Indies, 884 pkgs. C. S. Cox & Co
,, 416 J. Greig
,, 227 R. & J. Henderson
,, 932 Brinkmann & Co.
,, 443 A. Hagan
,, 221 Sollas & Sons
,, 625 Horsley, Nibble & Co
,, 886 Adamson, Gilfillan, & Co.
,, 659 L. & I. D. Jt. Co.

Indigo
Greytown, 17 chts. Cotesworth & Powell
Germany, 6 Parsons & Keith
E. Indies, 24 Darling Brs.
,, 38 L. & I. D. Jt Co.
Italy, 37 ,,
E. Indies 13 Elkan & Co.
,, 25 P. Macfadyen & Co.
,, 21 Parsons & Keith
Italy, 37 Isaac & Samuel
E. Indies, 10 F. Huth & Co.
,, 11 P. & O. Co.
,, 22 Arbuthnot, Latham, & Co

Orchella
Ceylon, 20 pkgs. E. Barber & Son

Saffron
Spain, 1 pkge. Richardson, Spence & Co.

Shumac
Italy, 200 pkgs. J. Knill & Co.
,, 150 Sollas & Sons
,, 1,900 Beresford & Co
,, 100 F. Roberts
,, 100 Union L. Co., Ltd.

Tanner's Bark
Natal, 2 t. L. & I. D. Jt. Co.

Turmeric
China, 300 pkgs. Prop. Sun Wf.
E. Indies, 500 E. D. Sassoon & Co.

Valonia
A. Turkey, 42 t. A. & W. Neskit
,, 00 Anning & Cobb
,, 50 S. Barrow & Bro., Ltd.

Farina—
Germany, 20 pkgs. M. D. Co.
France 1 Hernu, Peron, & Co.

Glucose—
U. States, 250 pkgs. 250 c. Trier, Meyer, & Co
,, 200 800 c. L. Norman & Co.
,, 900 5,215 L. Sutro & Co.
,, 100 566 G. White
,, 5 25 Linton, Hubbard & Co.
,, 250 250 Barrett, Tagant, & Co.
,, 50 303 Page, Son, & East
500 500 G. Hedges & Son
,, 1,500 1,502 P. Windmuller, Mack & Co.
,, 50 299 Stein Brs.
France, 113 113 J. Barber & Co.

Manganese—
Japan, 82½ t. Fellows, Morton, & Co., Ltd.
U. States, 32 Coml Ligtrge. Co.

Manganese Ore—
Japan, 110 t J. Swire & Sons
,, 94 Julius & Co.

Manure—
Argentine, 21 t. Anglo-Contl. G. Wks.
Belgium, 5 H. & E. Albert
Germany, 60 F. W. Berk & Co., Ltd.
U. States, 4 C. A. & H. Nichols
France, 20 J. Burnett & Sons
Holland, 41 H. & E. Albert

Methyl Alcohol—
Germany, 8 cks. Lister & Biggs

Mica—
E. Indies, £138 W. M. Smith & Sons
U. States, 10 ,,
E. Indies, 7 L. & I. D. Jt Co

Naphthaline—
Germany, 6 pkgs. M. Benscher

Ochre—
France, 42 cks. D. Storer & Sons
Holland, 7 Phillipps & Graves
France, 23 J. & T. Seddon
Cartagena, 50 brls. H. Johnson & Sons
U. States, 40 H. W. Wright

Paraffin Wax—
U. States, 5,987 pkgs. 2,016 brls. J. H. Usmar & Co.
" 400 brls. H. Hill & Sons
Phosphate Rock—
France, 240 t. A. Hunter & Co.
Belgium, 65 H. & E. Albert
" 25 B. Jacob & Sons
Picric Acid—
France, 30 pkgs Bailey & Leetham
Pitch—
Italy, 71 brls. Poth, Hille, & Co.
Plumbago—
Ceylon, 332 brls. J. Thredder, Son, & Co.
Germany, 7 cks. R. Warner & Co.
" 60 Leity & Kersel
Holland, 44 B. Gallaway
Cochin, 665 Parry & Co.
Potassium Bicarbonate—
Holland, 60 c. A. & M. Zimmermann
Potassium Carbonate—
France, 90 c Spies Brs. & Co.
" 65 J. A. Reid
" 5 cks. Beresford & Co
Potassium Permanganate—
Holland, 15 pkgs. F. Boehm
Potassium Sulphate—
France, 41 pkgs. Mead, Son, & Co.
Pumice Stone—
Italy, 4 t. Fellows, Morton, & Co.
" 10 B. Gallaway
" 4½ M. D. Co.
Belgium, 17 c. T. Palmer
N. Zealand, 1 L. & I. Dk. Co.
Canaries, 2½ W. Harrison & Co.
" 3 L. & I. Dk. Co.
Pyrites—
Spain, 1,945 t. C. Tennant, Sons, & Co.
Portugal, 970 Mason & Barry, Ltd.
Quicksilver—
Italy, 500 btls. L. & I. D. Jt Co.
Holland, 2 cs. F. Cheeswright
Rosin—
U States, 11,486 brls. Moore & Hole
" 3,069 G. Nutter & Co.
" 5,867 F. & S. Chiesman & Co.
" 7,720 H. Hill & Sons
Saltpetre—
Germany, 81 cks. J. Hall & Sons
" 40 Brown & Elmslie
" 20 A. Thumann & Co.
" 69 50 bgs. P. Hecker & Co.
Silica—
Germany, 150 pkgs. A. Haacke & Co.
Sodium Hyposulphite—
Germany, 186 pkgs. F. Boehm
Starch—
Belgium, 50 pkgs. Union L. Co., Ltd.
" 424 Prop. Scott's Wf.
Austria, 50 Stephenson, Mager, & Co.
Germany, 350 Horne & Co.
" 80 Seaward Brs.
Holland, 40 J. Barber & Co.
Austria, 20 P. Windmuller & Co.
Stearine—
Holland, 62 bgs. H. Hill & Sons
France, 100 Walbaum & Tosetti
Holland, 62 Robinson, Roberts, & Co.
Belgium, 38 Hammond & Co.
Sulphur—
Italy, 15 t. F. C. Devon & Co.
" 10 Parbury & Co.
" 10 F. Smith
" 100 Johnson & Hooper
" 62 G. Boor & Co.
" 150 B. Jacob & Sons
Tartaric Acid—
Holland, 5 pkgs. J. Owen
" 4 Middleton & Co.
" 4 B. & F. Wf Co. Ltd.
" 2 S. Hanson, Son, & Co.
Turpentine—
Savannah, 1000 brls. H. Frank & Co.
N. Russia, 50 F. & S. Chiesman & Co.
" 51 C. & B. Leighton & Co.
U. States, 1,000 Prod. Brokers Co., Ltd.
Savannah, 2008 "
" 1,500 H. Hill & Sons
Ultramarine—
Holland, 4 cs. Hernu, Peron, & Co.
Holland, 5 cs, Haeffner, Hilpert, & Co.
" 5 pkgs. J. Barber & Co.
" 3 G. Rahn & Co.
Germany, 17 Steinhoff, Sons & Co.
Holland, 54 cks. Thames S. T. & L. Co., Ltd.
Varnish—
U. States, 5 pkgs. Magee, Taylor, & Co.
France, 12 Flageollet & Co.
Vermilion—
Germany, 2 cs. Phillipps & Graves
White Lead—
Germany, 20 cks. Colthurst & Harding
Holland, 44 Burrell & Co.
" 50 cs. T. & W. Farmiloe
" 36 A. & M. Zimmermann
N. Russia, 8 M. D. Co.
France, 37 W. Harrison & Co.
Germany, 25 Blundell, Spence, & Co.
" 13 T. H. Willoughby
France, 19 J. Watt & Sons
Austria, 6 cs. W. Adolph & Co.
Zinc Oxide—
Germany, 35 cks Beresford & Co.
Holland, 71 brls. M. Ashby, Ltd.

LIVERPOOL.

Week ending December 21st.

Alum—
Hamburg, 12 cks.
Alumina Sulphate—
Rotterdam, 97 cks.
Ammonium Sulphate—
Marseilles, 9 cks.
Aniline Salts—
Rotterdam, 7 cks.
Antimony Ore—
Antofagasta, 307 sks. A. Gibbs, Son, & Co.
Mollendo, 152 bgs. Brailland, Sons, & Co.
Barytes—
Antwerp, 22 cks. 50 bgs.
Bremerhaven, 22
Benzoline—
Philadelphia, 5,341 brls.
Bone Meal—
Karachi, 4 000 bgs. Ralli Brs.
Bombay, 3,000
Boracic Acid—
Leghorn, 12 cks. Pickford & Co.
" 57
Borax—
San Francisco, 1,910 sks.
Mollendo, 33 Fauld Freres & Co.
Leghorn, 1 cs.
Castor Oil—
Leghorn, 13 cs.
Marseilles, 134 cks.
Chemicals (*otherwise undescribed*)
Colon, 1 cs.
Gefle 2 H. Sandelin
Colours—
Rotterdam, 16 cks 5 cs.
Ghent, 8 cs. J. T. Fletcher & Co.
Antwerp, 6
Cottonseed Oil—
New York, 10 brls.
Cream of Tartar—
Barcelona, 2 brls.
Rotterdam, 2 cks.
Dextrine—
Stettin, 50 bgs.
Dried Blood—
Ghent, 40 cs. J. T. Fletcher & Co.
Dyestuffs—
Cutch
Rangoon, 200 bxs. W. Candery & Co.
" 1,000
Extracts
Bordeaux, 220 cks.
Ghent, 80
N. Orleans, 36 bxs. Tanning Extract Co.
Fustic
Vera Cruz, 3,976 logs.
Tampico, 8,643 stks.
Logwood
Jamaica, 568 t. 11 c.
Hamburg, 10 10
Saffron
Valencia, 2 cs.
Shumac
Palermo, 100 bls.
Turmeric
Bombay, 48 bgs.
Valonia
Acre, 17 bgs. J. Bingham & Co.
Farina—
Hamburg, 200 bgs
Antwerp, 46 cs. J. T. Fletcher & Co.
Glucose—
New York, 600 brls.
Stettin, 12 cks. W. H. Flett
" 10
Dunkirk, 100 bgs.
Guano—
B. Ayres, 680 bgs. Williamson Milligan
Gypsum—
Karachi, 5 cks.
Nickel Oxide—
Antwerp, 359 brls.
Nitrate—
Rotterdam, 16 cks.
Ochre—
Marseilles, 23 cks.
Paint—
Boston, 16 cs. Fraser & Co.
Paraffin Scale—
Rangoon, 2,475 bxs.
Phosphates—
Ghent, 540 t. 500 bgs.
Dunkirk, 410
Phosphoric Acid—
Hamburg, 12 cks.
Pitch—
Marseilles, 56 cks.
Bordeaux, 94
Plumbago—
Colombo, 42 brls.
Potash—
Hamburg, 14 cks. 14 crts.
Dunkirk, 15 dms.
Rotterdam, 59
Potassium Chlorate—
New York, 200 kgs.
Pumice Stone—
Leghorn, 5 cs.
Mesina, 50
Rosin—
Brunswick, Ga., 5,411 brls.
Saltpetre—
Hamburg, 15 brls. 15 kgs.
Rotterdam, 170 bgs.
Soap—
Rotterdam, 4 cs.
Philadelphia, 1,100 bxs. 63 crts.
Leghorn, 250 Weaver & Sterry
Marseilles, 10 cs.
Soapstone—
Bordeaux, 600 bgs. G. G. Blackwell
Sodium—
Rotterdam, 4 cks.
Starch—
Antwerp, 78 cs. J. T. Fletcher & Co.
" 8
Rotterdam, 472
New York, 1,000 sks.
Stearine—
Antwerp, 106 bgs.
Rotterdam, 6 bls.
Sulphur—
Catania, 30 brls. 200 bgs. 100 cks. 75 t.
Tallow—
San Francisco, 650 brls
Boston, 2 15 hds. 245 tcs.
New York, 30
Philadelphia, 160
Frey Bentos 809 pps, 323 Leibeg's Extract Meat Co., Ld.
Tartar—
Bordeaux, 15 cks.
Tartaric Acid—
Rotterdam, 53 cks.
Tar Waste—
Rotterdam, 7 cks.
Turpentine—
Brunswick, Ga., 200 cks.
Ultramarine—
Rotterdam, 48 cs. 10 cks. 8 pkgs.
Hamburg, 2
Varnish—
Antwerp, 10 cs. 5 cks.
Verdigris—
Bordeaux, 2 cks.
Waste Salt—
Hamburg, 50 t. D. Currie & Co.
White Lead—
Rotterdam, 147 cks.
Antwerp, 12
Zinc Ashes—
Antwerp, 16 cks. J. T. Fletcher & Co.
Zinc Oxide—
New York, 50 brls.
Antwerp, 90
Rotterdam, 25 cks.
Zinc White—
Antwerp, 25 cks.
Rotterdam, 60 O. H. Marcus

HULL.

Week ending December 23rd.

Acid—
Leghorn, 20 cks. 2 brls. Wilson, Sons, & Co., Ltd
" 4 brls.
Albumen—
Hamburg, 4 cks Wilson, Sons, & Co., Ld.
Stettin, 5 "
Antichlor—
Cologne, 2 cks.
Asbestos—
Genoa, 1 cs. Wilson, Sons, & Co., Ld.
Barytes—
Antwerp, 173 cks. Bailey & Leetham
Bremen, 72
Caoutchouc—
Hamburg, 3 cs. C. M. Lofthouse & Co.
Castor Oil—
Leghorn, 5 cs.
Chemicals (*otherwise undescribed*)
Stettin, 18 cks Wilson, Sons, & Co., Ltd.
Bremen, 1 kg. Veltmann & Co.
Danzig, 12 cks.
Flushing, 1 cs. 1 ck. Brasch & Rothenstein
Colours—
Rotterdam, 3 cks. 75 pks W. & C. L. Ringrose
Flushing, 24 pkgs. G. Lawson & Sons
" 5 cs. 77 Brasch & Rothenstein
Hamburg, 20 Wilson, Sons, & Co., Ld.
Antwerp, 1 Storry, Witty, & Co.
Bremen, 5 cks. Veltmann & Co.
" 17
Danzig, 14
Rotterdam, 18 G. Lawson & Sons
" 8 pks. Hutchinson & Son
Flushing, 2 33 "
Cologne, 1
Dextrine—
Stettin, 150 bgs. Wilson, Sons, & Co., Ld.
Dyestuffs—
Alizarine
Rotterdam, 65 pks W. & C. L. Ringrose
Argols
Leghorn, 1 ck.
Indigo
Amsterdam, 2 cs. Wilson, Sons, & Co., Ltd.
Logwood
Hamburg, 30 bgs. Wilson, Sons, & Co., Ld.
Valonia
Smyrna, 700 bgs.
Soda—
Stettin, 500 bgs. Wilson, Sons, & Co., Ltd.
" 200
Harlingen, 600
Ghent, 40 cs. "
Kaolin—
Rotterdam, 20 cks. Reckitt & Sons
Ochre—
Rouen, 23 cks
Phosphate—
Ghent, 800 bgs. Wilson, Sons, & Co., Ltd
100 t.

sphorus—
tterdam, 1 cs. C. M. Lofthouse & Co.

h—
twerp, 1 ck.
sterdam, 14 W. & C. L. Ringrose

ssium Carbonate—
mburg, 10 cks.

ice Stone—
ghorn, 10 cs. Wilson, Sons, & Co., Ltd.

in—
deaux, 3 cks.
mburg, 1 cs. Wilson, Sons, & Co., Ltd.
mington, N.C., 2,500 brls.
annah, 761

petre—
mburg, 11 cks.

a—
istiania, 1 cs. Wilson, Sons, & Co., Ltd.

—
tterdam, 5 cks.

k—
tterdam, 4 cks. Penny & Co.

ch—
men, 1,654 cs. Veltmann & Co.

ow—
w York, 150 tcs. Wilson Sons, & Co., Ltd.

ar—
deaux, 4 cks. Rawson & Robinson

aric Acid—
terdam, 9 cks. Hutchinson & Son

pentine—
deaux, 23 brls. Rawson & Robinson
" 10
au, 51 cks.
mington, N.C., 1,477 brls.
annah, 2,210

te Salt—
mburg, qty.

te Lead—
tterdam, 23 cks. Hutchinson & Son
twerp, 49 Bailey & Leetham
tterdam, 10 Sissons Bros. & Co.
logne, 54

Zinc Oxide—
Rotterdam, 25 cks. Sissons Bros. & Co.
" 10 Hutchinson & Son

Zinc White—
Cologne, 10 cks.

GLASGOW.

Week ending December 28th.

Alum—
Han burg, 283 cks. 200 bgs.

Alumina Sulphate—
Hamburg, 49 cks.

Arachide Oil—
Rotterdam, 14 cks. J. Rankine & Son

Barytes—
Rotterdam, 141 cks.

Colours—
Rotterdam, 5 cs. 3 brls. J. Rankine & Son
" 15 pkgs.
Amsterdam, 3 cks.

Dextrine—
Stettin, 600 bgs.

Dyestuffs—
Alizarine
Rotterdam, 134 cks. 40 pkgs.
Argols
Bordeaux, 28 bgs.
Logwood
Jamaica, 485 t. 1 c. Wm. Connal & Co
Madder
Rotterdam, 3 cks J. Rankine & Son

Farina—
Stettin, 2,050 bgs.

French Chalk—
Trieste, 100 bgs.

Glucose—
New York, 1,000 brls.

Paraffin Scale—
Philadelphia, 140 brls.

Potash—
Rotterdam, 10 cks. J. Rankine & Son

Potassium Sulphate—
Rotterdam, 49 cks. J. Rankine & Son

Pyrites—
Huelva, 1,377 t. Tharsis Co.

Rosin—
Savannah, 3,750 brls.

Soap—
New York, 34 brls.

Soda—
Rotterdam, 19 cks.

Tallow—
New York, 50 tcs.

Tartar—
Bordeaux, 5 cks.

Yarnish—
New York, 10 brls.
Philadelphia, 4 cs.

Waste Salt—
Hamburg, 500 bgs.

White Lead—
Rotterdam, 69 cks. J. Rankine & Son

Zinc Oxide—
New York, 10 brls.

TYNE.

Week ending December 23rd.

Alum Earth—
Hamburg, 17 cks. Tyne S. S. Co.

Barytes—
Rotterdam, 46 cks. Tyne S. S. Co.

Colours—
Rotterdam, 8 cks. Tyne S. S. Co.
Hamburg, 1 1 cs.

Limestone—
Antwerp, 2 cs. Tyne S. S. Co.

Manganese—
Rotterdam, 2 cks. Tyne S. S. Co.

Pyrites—
Huelva, 124 brls.
" 2,191 t. Scott Bros.

Starch—
Rotterdam, 76 cks. Tyne S. S. Co.
Antwerp, 80 cs. "

Stearine—
Bergen, 40 brls.

Sulphur Ore—
Pomaron, 920 t. Mason & Barry

Zinc Oxide—
Antwerp, 13 brls. Tyne S. S. Co.

GOOLE.

Week ending December 20th.

Acetic Acid—
Antwerp, 20 blns.

Alkali—
Hamburg, 56 cks.
Calais, 13

Chemicals *(otherwise undescribed)*
Hamburg, 6 cs.

Dyestuffs—
Alizarine
Rotterdam, 231 pkgs.
Extracts
Rotterdam, 10 cks.
Ghent, 200
Rouen, 1
Logwood
Jamaica, 488 t.

Dyestuffs *(otherwise undescribed)*
Boulogne, 27 cks. 9 cs.
Ghent, 4 brls.

Farina—
Hamburg, 3,106 bgs.
Delfszyhl, 5,067

Iron Oxide—
Rotterdam, 178 t.

Phosphate—
Ghent, 750 bgs.

Potash—
Calais, 95 dms.

Saltpetre—
Hamburg, 40 kgs. 31 cks.
Antwerp, 85 bgs.

Soda—
Rotterdam, 4 cks

Waste Salt—
Hamburg, 1,113 cks.

Zinc Oxide—
Antwerp, 20 brls.

GRIMSBY.

Week ending December 23rd.

Chemicals *(otherwise undescribed)*
Hamburg, 7 cks. 20 cs. 8 pkgs.
Antwerp, 3

Dyestuffs *(otherwise undescribed)*
Dieppe, 25 cks.

Farina—
Hamburg, 40 bgs.

Size—
Antwerp, 2 pkgs.

Zinc Ashes—
Antwerp, 38 cks.

EXPORTS OF CHEMICAL PRODUCTS

OF

THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending December 27th.

ic Acid—
llington, 4 cs. £9

s—
cutta, 29 pkgs. £109

li—
jutla, 20 t. 14 c. £175
utta 1 2 11
ytown, 4 4 18

ionia (Liquid)—
al, 10 drs. £15
laide, 6 c. 9

ionium Carbonate—
terdam, 6 c. £11
ney, 10 cs. 20

ionium Chloride—
ney, 7 t 1 c. £145

x—
laide, 10 c. £15

olic Acid—
Video, 10 dms. £9

tic Soda—
yboro, 1 t. 6 c. £17
Video, 3 13 40
rtown, 15 5 162

nicals *(otherwise undescribed)*
lington, 4 cs. £20
bay, 5 pkgs. 46

Coal Products—
Aniline Dyes
Calcutta, 1 cs. £21
Tientsin, 15 125
New York, 36 cks. 250
Aniline Oil
Dunkirk, 4 dms. £120
Rotterdam, 18 530
Aniline Salts
Dunkirk, 5 cks. £40
Benzol Oil
Philadelphia, 14 dms. £120
Coal Tar Dyes
Boston, 4 cks. £43
Naphthalene
Hamburg, 9 cks. £71
New York, 176 245
Pitch
New York, 100 bgs. 432 cks. £186
Cette, 1,140 t. 1,710
Alexandria, 350 brls. 132
Boston, 600 260
B. Ayres, 50 24
Newport News, 450 bgs. 78
Gijon, 266 t. 455
Cologne, 12 brls. 35
Philadelphia, 2,058 bgs. 379
Tar
Colombo, 6 runs £13
St Lucia, 10 pkgs. 9
Danzig, 250 brls. 125
Boston, 100 cks. 45
Cologne, 10 10
Mauritius, 8 5
Pt. Elizabeth, 70 dms. 9
Natal, 515 50 rns. 77
Tar Oil
Treport, 30 cks. £20
Toluol
Rotterdam, 10 cks. £136

Coal Products *(otherwise undes.)*
Hong Kong, 10 brls. £10

Copper Sulphate—
Oporto, 20 cks. £79
Fremantle, 1 t. 9

Cream of Tartar—
Sydney, 4 t. 13 kgs. £339
Melbourne, 3 2 c. 221
Fremantle, 7 26
Adelaide, 5 21

Disinfectants—
Bremerhaven, 12 c. £18
Wellington, 8 pkgs 4 cs. 15
Calcutta, 13 dms. 18
Sydney, 22 cs 2 c. 118

Flowers of Sulphur—
Algoa Bay, 1 t. 2 c. £14

Manure—
Berbice, 20 t £205
Jersey, 78 8 c. 289

Muriatic Acid—
Boca, 6 c. £10

Nitric Acid—
Flushing, 1 cs. £13

Phosphate—
St. Vincent, 5 t. £32
Antigua, 183 458

Phosphoric Acid—
Demerara, 5 t. 2 c. £83

Phosphorus—
Lisbon, 4 cs. £33
Oporto, 2 22

Saltpetre—
Bombay, 10 c. £11
M. Video, 10 11

Sheep Dip—
B. Ayres, 350 drs. £225
Sydney, 210 90
Mossel Bay, 25 cs 75
Cape Town, 175 525
Pt. Elizabeth, 500 1,500
E. London, 325 975
Durban, 250 750
Oamaru, 45 pkgs. 33
Brisbane, 100 225

Soda—
Trinidad, 1 t. £8
Cape Town, 5 18 c. 18

Soda Ash—
St. Vincent, 16 c. £6

Sodium Silicate—
Greytown, 6 t. 4 c. £26

Sulphur—
Cape Town, 100 pkgs. £77

Sulphuric Acid—
Cape Town, 3 t. £27

Tartaric Acid—
B. Ayres, 10 c. £46
Fremantle, 1 5
Sydney, 15 80

Zinc Chloride—
Brisbane, 20 dms. £11

LIVERPOOL.

Week ending December 27th.

Alum—
Canada, 8 t. 13 c. 3 q. £47
Sydney, 12 2 58
Singapore, 2 4 11
Bombay, 14 6 77
Salohora, 1 5
Candia, 1 5
Toronto, 3 11 17

Aluminous Cake—
Calcutta, 10 t. 13 c. 2 q. £39
Montreal, 3 16 11

Ammonia (Liquid)—
Gr. Canary, 8 c. £18
New York, 3 3 q. 6
Hong Kong, 6 3 44

Ammonium Carbonate—
Toronto, 11 c. £18
Venice, 18 31

Ammonium Chloride—
Rotterdam, 1 t. 3 c. 3 q. £20
Genoa, 2 10 34
Hamburg, 5 1 10

Ammonium Sulphate—
Gr. Canary, 70 t. 18 c. £993
Hamburg, 100 16 2 1,400
Copenhagen, 51 4 1 693
Dunkirk, 50 16 692
Ghent, 20 270
Las Palmas, 8 8 4 115
Valencia, 110 4 3 1,440

Antimony—
Boca, 5 c.

Asbestos—
Santa Marta, 1 cs.

Bleaching Powder—
Calcutta, 200 cs.
Chicago, 50 bxs.
Constantinople, 15 cks.
Havana, 4
New York, 25 brls. 669
San Sebastian, 28
Baltimore, 306
Newport News, 51
Boston, 992
Genoa, 30
Oporto, 8

Bone Waste—
Rouen, 7 t. £49

Boracic Acid—
Yokohama, 2 t. £75
Constantinople, 5 c. 3 q. 11
New York, 3 6 2 106
Boston, 2 3 2 72
Melbourne, 4 158

Borax—
Algoa Bay, 11 c. £15
Constantinople, 6 2 q. 9
Carril, 5 2 8
Malaga, 13 18
Hamburg, 1 t. 2 30
Vera Cruz, 10 15
Rotterdam, 6 12 3 190

Calcium Chloride—
M. Video, 2 t. 9 c. £6
New York, 5 1 14

Carbolic Acid—
Rouen, 10 t. 13 c. £587
Hiogo, 13 2 q. 25
Yokohama, 13 2 25
Marseilles, 14 3 684

Castor Oil—
Antwerp, 3 cks.

Caustic Potash—
New York, 8 t. 2 c. £170

Caustic Soda—
Algoa Bay, 45 cs.
Bahia, 290 dms.
Baltimore, 156 brls.
Barcelona, 900
Boston, 50
B. Ayres, 52
Calcutta, 195
Chicago, 31 50 bxs.
Cienfuegos, 65
Coquimbo, 15
Hong Kong, 4 cks.
Lisbon, 60
Malta, 69
Melbourne, 72
Nantes, 85
N. Orleans, 80
New York, 1,042 100
Pelotas, 50
Pernambuco, 120
Pimental, 40
Seville, 151 120
Sydney, 40
Tampico, 200
Antwerp, 64
Carbarien, 50
Catania, 100
Dunedin, 10
Genoa, 309
Guelph, 60
Hamburg, 29
Honolulu, 20
Marseilles, 30
Matanzas, 20
Melbourne, 69
Messina, 30
Mollendo, 15
Naples, 189
Rouen, 127
Santander, 30 40 brls. 70 pkgs.
Yokohama, 96
Acajutla, 10
Bilbao, 17
Maracaibo, 10
M. Video, 100
Newport News, 25 10 crts.
Para, 3
Philadelphia, 30
Pt. Natal, 2 bxs. 3 cs.
Rotterdam, 106 dms.
Sagua, 4
St Stephens, 50
San Sebastian, 28
Sydney, N.S.W., 115 36 brls. 15 bxs.
Trieste. 45
Valparaiso, 25
Vera Cruz, 50
Victoria, 10
Vigo, 7 6 12 cks.

Chemicals *(otherwise undescribed)*
Antwerp, 2 t. 4 c. £76
New York, 5 5 132
Naples, 1 4 42
Marseilles, 1 35
Malta, 5 8
Valparaiso, 11 20

China Clay—
Boston, 712 t. 15 c.
Naples, 20 cks.
Genoa, 3 bxs.

Citric Acid—
Mexico City, 3 c. 2 q. £32

Coal Products—
Alizarine Colours
Philadelphia, 2 cks.
Aniline Colours
Boston, 2 kgs.
Constantinople, 4 cs
New York, 6 4 16 cks.
Philadelphia, 5
Shanghai, 25
Aniline Oil
Barcelona, 5 dms.
Genoa, 12
New York, 59
Rouen, 5
Naples, 1
Rouen, 22
Aniline Salts
New York, 43 cs. 42 brls.
Myrbane Oil
New York, 4 dms. 20 cs.
Pitch
Seville, 850 t.
Cavite, 20 brls.
Cette, 76 9 c.
Arica, 5
St Nazaire, 715
Tar
St. John's, N.F., 52 brls.
Honolulu, 50 50 dms.
Madras, 45
Tar Oil
Algoa Bay, 15 cks.

Copperas—
Syra, 3 t. 6 c. £5
Calcutta, 25 6 51
Beyrout, 5 10 9
Tripoli, 3 14 6

Copper Sulphate—
Rouen, 55 t. £853
Seville, 5 130
Naples, 9 19 c. 1 q. 141
Genoa, 5 3 3 74
Catania, 5 2 2 76
Oporto 22 15 3 322
Algoa Bay, 7 2 6
Lisbon, 10 145
Beyrout, 5 4
Valparaiso, 5 4
Sydney, 10 164
Ghent, 1 1 16

Cream of Tartar—
St. John's. N.F., 2 c. £7
Portland, M., 2 10 30

Disinfectants—
Cadiz, 11 c. £25

Farina—
Antwerp, 10 bgs.

Iron Oxide—
Santander, 3 t. 8 c. 1 q. £19
Gijon, 1 t. 14 c. £9
Antofagasta, 17 2 1 q. 41
B. Ayres, 27 1 3 64

Lime—
Sierra Leone, 20 cks.

Limestone—
New York, 2 cs.

Litharge—
Oporto, 6 cks.

Magnesia—
Paris, 86 cs.
Mexico, 5

Magnesium Carbonate—
Mexico City 3 c. 1 q. £5

Magnesium Sulphate—
Bombay, 100 bgs.
Rio Janeiro, 150 kgs.

Manganese—
Hamburg, 16 cks.

Manure—
Hamburg, 36 t. 10 c. 3 q. £165

Mineral White—
Vera Cruz, 20 cks.

Oxalic Acid—
Trieste, 1 t. £33
Calcutta, 11 c. 10

Paint—
Calcutta, 251 kgs. 20 dms.
Cardenas, 6 cks.
Gaboon, 4
Gibraltar, 104
Gr. Bassam 2
Iquique 50
Kurrachee, 32
Manoh, 4
Melbourne, 2
St. Domingo, 11
Dunkirk, 12
Havana, 4
Iquique, 127 cs.
Rosario, 78 15 brls. 4
St. Croix, 3
Sanguan, 239
Santiago de Cuba 2
Cadiz, 40 dms.
Candia, 7
Colombo, 9
Curacao, 30
Gr. Bassam, 8
M. Video, 45
New York, 6
St Thomas, 4
Sierra Leone, 114
Valparaiso, 10
Zante, 2 brls. 8

Painters' Colours—
Alexandria, 265 cks. 552 kgs.
Antigua, 2
Antwerp, 4 10 brls. 16 13 pkgs.
Bahia, 18 245 3 cs.
Bathurst, 72
Beyrout, 15
B. Ayres, 16 dms.
Lisbon, 30
Naples, 27
New York, 13 300 5
Oporto, 4 cs.
Para, 1
Philadelphia, 2
Rotterdam, 2 162
S. John's, N'fd, 11 30
Santander, 25
Sierra Leone, 2 3
Talcahuano, 5
Boston, 30
Cape Haitien, 18
Cape Town, 8 6
M Video, 8
S. Thomas, W.I. 27
Baltimore, 5
,, 276
Bilbao, 3 bxs.
Havana, 1 10 3 1 tce.
Honolulu, 8
Leghorn, 20
Loanda, 2
Manila. 310
Marseilles, 46 100 bgs.
N. Orleans, 220

Paraffin Wax—
Palermo, 4 bgs.
Piræus, 6
Rio de Janeiro, 10 cks.
Antwerp, 96 cs.
Genoa. 37
Barcelona, 22
Rouen, 10
Syra, 1

Phosphorus—
Guayaquil, 8 c. 2 q. £96

Potassium Bichromate—
Amsterdam, 1 t. 3 c. £55

Potassium Carbonate—
New York, 5 t. 11 c. £105
Newport News, 4 2 c. 1 q
Potassium Chlorate—
Antwerp, 2 t.
Genoa. 10 c.
Rotterdam, 1
Copenhagen, 2 10
Randers, 1
Odessa, 1
New York, 12 10
Naples, 1 5
Hiogo, 33
Yokohama, 2 10
Iquique, 12 10
Cape Town, 1

Potassium Prussiate—
New York, 30 t. 1 c. 1 q.

Potassium Sulphate—
Newport News, 1 t. 18 c. 3 q.

Rosin Oil—
Antwerp, 10 cks.

Salt—
Baltimore 439 t. 18 c.
Boston, 329 12
Cabinda, 6 8
E. London, 17 16
Hamburg, 119
Jersey, 5
Landana, 12 16
N. Orleans, 300
New York, 150
Old Calabar, 80
Para, 582 3
Portland, Ma., 20
Rouen, 1 13
Sette Camme, 15
Shanghai, 1 15
Sierra Leone, 200
Talcahuano, 1 12
Trinidad, 190
Victoria, B.C., 8
Accra, 5
Algoa Bay, 8 19
Banana, 120
C. C. Castle, 12 10
Ghent, 55
Jamaica, 250
Lagos, 243
Manoh, 41 5
Sydney, 40
Yokohama, 2 12
Akassa, 400
Antwerp, 106
Cameroons, 16 14
Faroe Is., 175
Melbourne, 47
Newport News, 250
Quillo, 210
Rotterdam, 100
San Francisco, 89
San Jose, 5
Sierra Leone, 344 5
Sydney, N.S.W. 200

Saltcake—
Baltimore, 39 t. 14 c.

Sheep Dip—
B. Ayres, 2 t. 5 c.
Zanarmo, 2
E. London, 1 9

Size—
Boston, 10 brls.
Ghent, 14 cks.
Magog, 8

Soap—
Alexandria, 30 bxs. 36 cs.
Bombay, 525 82
Brussels, 800
Cabinda, 20
Cairo, 10
Calcutta. 5 248 250
Cape Lahon, 40
Curacao, 403
Fernando Po, 30
Gibraltar, 350 30
Half Jack, 20
Hong Kong, 83 20
Las Palmas, 526
Liege Meuse, 200
Malta, 30 70
New York, 950 75 5
Old Calabar, 1 230
Para. 3
Rio Grande. 5
St. John's, N'fd., 55 31
Shanghai, 8,230
Smyrna, 2
Barbadoes, 1,600
Canada 24
C. C. Castle, 1
Cape Town, 770
Colon, 25
E. London, 516 77
Ghent, 60
Gr. Bassa, 170
Guayaquil, 37
Kingston, Ja, 25

Kurrachee, 10 bxs. 3 cs.
Lanzarote, 93
Lisbon, 10
Madras, 5
M. Video, 1
S. Thomas, W. I., 500
Singapore, 2,186
Trinidad, 2,284
Valparaiso, 5
Vancouver, 12
Accra, 120
Addah, 100
Algoa Bay, 1,875
Ambrizette, 25
Appam, 70
Attaboe, 34
Bayin, 75
Boma, 20
Bonny, 50
B. Ayres, 1
Gr. Canary, 465
La Guayra, 5 crts.
Livingstone, W. I., 150
Opobo, 250
Palma, 224
Philadelphia, 20
Ponce, 50
Pt. Natal, 374
Pram Pram, 150
Rotterdam, 5
Sierra Leone, 1
Sydney, 1,480

Soda Alkali—
Buffalo, 60 brls.
Leghorn, 42
Melbourne, 84
Odessa, 100

Soda Ash—
Antwerp, 1,009 bgs 180 cks.
Bahia, 20 brls.
Baltimore, 7,944 403 639 tcs.
Barcelona, 20
Boston, 3,280 270 205
B Ayres, 274 310
Copenhagen, 2320
Corfu, 100
Genoa, 1,110 142
Ghent, 634 36
Havana, 6
Lisbon, 5
Naples, 18
Paysandu, 100
Pelotas, 50
Philadelphia, 1800 86 363
Piræus, 59 12
Rio Grande, 50
Seville, 1
Venice, 100 51
Victoria, B.C., 34
Baltimore, 900
Dunedin, 16
Gibraltar, 250 20
Hamburg, 300 15
La Libertad, 50
Leghorn, 220 63
Monterey, 40
Naples, 24
Oporto, 13
Vera Cruz, 14
Bombay, 10
Gothenburg, 30
Melbourne, 275
Milwaukee, 320
M. Video, 25
Nagasaki, 200 kgs.
N. York, 15,310 261 161 tcs. 40 dms.
Smyrna, 140
Sydney, N.S.W. 67
Syra, 40
Wellington, 65
Yokohama, 50 60

Soda Crystals—
Bahia, 30 brls.
Boston, 239 350 kgs. 140 cks.
Calcutta, 66
Canada, 22 cs.
Malta, 125
Samarang, 50
Valparaiso, 100
Alexandria, 20
Iquique, 100
Lisbon, 16
Amsterdam, 100 sks.
Bombay, 250
Halifax, 30
New York, 140
Rotterdam, 50 brls.
St. John's, N'fd., 2 cs.

Sodium Acetate—
Naples, 6 cks.
Rouen, 1

Sodium Arseniate—
Rotterdam, 1 ck.

Sodium Biborate—
Hamburg, 21 cks.

Sodium Bicarbonate—
Alexandria, 114 kgs
Antwerp, 4 cks.
Catania, 30
E. London, 25
Amsterdam, 20
Auckland, 70
Barcelona, 120
Canterbury, 65
Dunedin, 70
Genoa, 25 4
Halifax, 55
Havre 65
Marseilles, 85
Mexico, 15
New Plymouth, 20
Sydney, 200
Syra, 20
Wellington, 133
Algoa Bay, 50 bgs
Bombay, 380
Boston, 50
B. Ayres, 175
Calcutta, 825
Cape Town, 95
Hamburg, 20
Havana, 30
London, Ont., 375 5
Malaga, 50
Melbourne, 300 8
Messina, 10
Naples, 10
New York, 40
Rotterdam, 120
San Francisco, 4
Trinidad, 30
Valencia, 65
Venice, 100

Sodium Bichromate—
Antwerp, 16 cks.
Ghent, 16
Amsterdam, 3
B. Ayres, 1
Genoa, 3

Sodium Carbonate—
Baltimore, 42 cks.
New York, 28 brls
Acajutla, 5
Trieste, 20 kgs.

Sodium Chlorate—
Hamburg, 49 kgs.
New York, 100
Ghent, 20
Rotterdam, 20

Sodium Fluoride—
Hamburg, 50 bgs.

Sodium Prussiate—
Naples, 2 cks.

Sodium Silicate—
San Sebastian, 48 cks.
Valencia, 32
Almeria, 10
B Ayres, 116
Lisbon, 43 brls.
Oporto, 16
Victoria, B.C., 32 31
Volo, 10
Barcelona, 50
Bilbao, 20
Leghorn, 3
Piræus, 5

Sodium Sulphate—
Lisbon, 10 cks.

Sulphur—
Iquique, 22 t 10 c. £125
Boston, 209 5 808
New York, 2 12

Superphosphate—
Las Palmas, 11 t. 11 c. £29
G. Canary, 22 4 95

Turpentine—
Leghorn, 7 t 17 c. £190
Copenhagen, 10 brls.
Manila, 50 dms.
Bremerhaven, 10
Alexandria, 5
Kurrachee, 50

Varnish—
Bahia, 1 dm.
Genoa, 4 cs.
Naples, 4
Barcelona, 6 brls.
Halifax, 12

Verdigris—
New York, 3 t. 5 c. £110

White Lead—
E. London, 8 cks.

Zinc Chloride—
Bombay, 6 t. 13 c. 3 q. £180

Zinc Oxide—
Santander, 8 cks.

GLASGOW.

Week ending December 28th.

Ammonium Sulphate—
Demerara, 236 t. 13¾ c. £2,862
Hamburg, 100 1,350

Bleaching Powder—
New York, 10 t. ¼ c. £90

Boracic Acid—
Rouen, 9 t 16¼ c. £386

Borax—
Cape Colony, 2 t. £61

Coal Products—
Benzol
Rotterdam, 30 pns. £235
Naphtha
Rouen, £492
Pitch
Boston, 29 t. 15 c. £46
New York, 101 173
Dunkirk, 250
Tar
Boston, 49 t. £64
Bombay, 83

Cottonseed Oil—
Hamburg, 30 brls. £103

Linseed Oil—
Barbadoes, 566 glns. £48

Litharge—
Portland, 9 t. 7 c. £106

Magnesium Sulphate—
Bombay, 13 t 1¼ c. £60

Manganese—
Rouen, 5 t. 2 c £49

Paint—
Rouen, 1 t. 16 c. £23
Bombay, 241
New York, 5 t. 18¾ c £121. 10s

Painters' Colours—
Cape Colony, £55

Paraffin Wax—
Italy, £19
Rouen, 7 t. 16¾ c. 192
Hamburg, 3 2 70
Fremantle, 10 cs. 27

Plumbago—
Demerara, 14¾ c. £32

Potassium Bichromate—
Boston, 9 t. 9¾ c. £400
Gothenburg, 5 11½ 201

Rosin Oil—
Christiania, 5 brls. £10

Soap—
Barbadoes, 13 t. 13 c. £213

Sulphur—
Demerara, 3 t. 14¾ c. £20. 8s.

Superphosphates—
Demerara, 20 t. £72

Tallow—
Rotterdam, 5 t. 8 c. £200

Varnish—
Cape Colony, 72 glns. £33

TYNE.

Week ending December 23rd.

Alkali—
Riga, 2 t. 19 c.
Rotterdam, 3 7

Ammonium Carbonate—
Genoa, 2 t 14 c.
Copenhagen, 5

Ammonium Chloride—
Genoa, 1 t.

Ammonium Sulphate—
Rotterdam, 65 t.
Odense, 2 10 c.

Antimony—
Rotterdam, 1 t.

Asbestos—
Bergen, ¼ c.

Barium Carbonate—
Riga, 41 t. 7 c.

Bleaching Powder—
Antwerp, 19 t. 5 c.
Ancona, 5 17
Christiania, 15 3
Gothenburg, 13
Rotterdam, 30 14
Horsens, 1 10
Dunkirk, 10 4
Bilbao, 43 3
Drontheim, 10 3
Genoa, 29 19

Carbolic Acid—
Rotterdam, 5 t. 10 c.

Caustic Soda—
Alexandria, 7 t. 5 c.
Venice, 15 1
Trieste, 21 15
Ancona, 36 14
Bari, 30 10
Hamburg, 78 7
Ghent, 4 19
Odense, 6 9
Bilbao, 18 1
Genoa, 115 15
Copenhagen, 2 9

Colours—
Antwerp, 10 c

Copperas—
Alexandria, 31 t. 7 c.
Copenhagen, 14 4

Linseed Oil—
Ergastiria, 12 c.

Litharge—
Antwerp, 11 c.
Genoa, 11

Magnesia—
Hamburg, ¾ c.
Genoa, 7

Paint—
Ergastiria, 13 c.

Painters' Colours—
Hamburg, 5 t. 1 c.

Potassium Chlorate—
Ancona, 6 c.

Soda—
Alexandria, 5 t. 7 c.
Ancona, 29 1
Christiania, 8 2
Rotterdam, 5
Odense, 5

Soda Ash—
Konigsberg, 41 t. 4 c.
Trieste, 3 10
Ancona, 1 8
Christiania, 13
Gothenburg, 10 6
Odense, 20 3
Copenhagen, 20 11

Sodium Bicarbonate—
Aalborg, 1 t. 2 c.

Sodium Hyposulphite—
Christiania, 11 c.

Sodium Silicate—
Bilbao, 5 t. 16 c.

Sodium Sulphate—
Spezzia, 100 t. 5 c.

Sulphur—
Ghent, 5 t.

Superphosphate—
Stavanger, 15 t.

Tallow—
Hamburg, 15 c.

Turpentine—
Antwerp, ¾ c.

White Lead—
Copenhagen, 2 t. 18

GOOLE.

Week ending December 20th.

Chemicals (*otherwise undescribed*)
Boulogne, 16 cks.
Ghent, 1
Rotterdam, 28

Coal Products (*otherwise undes.*)
Antwerp, 50 cks.
Boulogne, 2 3 cs. 5 t.
Ghent. 27 3 tins 4 dms

Dyestuffs (*otherwise undescribed*)
Hamburg, 2 cks.

Manure—
Ghent, 190 bgs.
Hamburg, 500

Pitch—
Antwerp, 549 t.

GRIMSBY.

Week ending December 23rd.

Chemicals (*otherwise undescribed*)
Antwerp, 5 cks.
Dieppe, 2 2 cs.
Hamburg, 2 5 pkgs.

Coal Products (*otherwise undes.*)
Dieppe, 3 cs. 139 cks.

Dyestuffs (*otherwise undescribed*)
Dieppe, 4 cks. 1 cs.

PRICES CURRENT.

WEDNESDAY, JANUARY 3rd, 1894.

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 116, PORTLAND STREET, MANCHESTER.

The values stated are F.O.R. at maker's works, or at usual ports of shipment in U.K. The price in different localities may vary

	£	s.	d.
Acids :—			
Acetic, 25 % and 40 % .. .. per cwt.	7/6 & 11/3		
,, Glacial .. .. ,,	50/-		
Arsenic S.G., 2000° .. .. ,,	0	14	6
Fluoric .. .. per lb.	0	0	3¼
Muriatic (Tower Salts), 30° Tw. .. .. .. per bottle	0	0	10
,, (Cylinder), 30° Tw. .. .. ,,	0	3	0
Nitric 80° Tw. .. .. per lb.	0	0	1¾
Nitrous .. .. ,,	0	0	1¾
Oxalic .. .. nett ,,	0	0	3¼
Phosphoric, 1750° .. .. ,,	0	1	2½
Picric .. .. ,,	0	1	0
Sulphuric (fuming 50 %) .. .. per ton	15	10	0
,, (monohydrate) .. .. ,,	5	10	0
,, (Pyrites, 168°) .. .. ,,	3	0	0
,, ,, 150° .. .. ,,	1	5	0
,, (free from arsenic, 145°) .. .. .. ,,	1	6	0
Sulphurous (solution) S.G. 1025 .. .. .. ,,	3	0	0
Tannic (pure) .. .. per lb.	0	1	2
Tartaric .. .. ,,	0	0	11½
Arsenic, white powdered .. .. nett per ton	13	10	0
Alum (loose lump) .. .. ,,	5	2	6
Alumina Sulphate (pure) .. .. ,,	5	0	0
Aluminoferric .. .. ,,	2	10	0
Aluminium .. .. per lb.	0	3	0
Ammonia, Anhydrous .. .. ,,	0	1	:
,, ·880=28° .. .. per lb.	0	0	3
,, =24° .. .. ,,	0	0	2¼
,, Carbonate .. .. nett ,,	0	0	3¼
,, Muriate .. .. per ton	25	10	0
,, ,, (sal-ammoniac) 1st & 2nd .. per cwt.	39/- & 37/-		
,, Nitrate .. .. per ton	44	0	0
,, Phosphate .. .. per lb.	0	0	10½
,, Sulphate (grey) London .. .. .. per ton	13	10	0
,, ,, (grey) Hull .. .. ,,	13	7	6
Aniline Oil (pure) .. .. per lb.	0	0	6¼
Aniline Salt ,, ... ,,	0	0	5¾
Antimony .. .. per ton	45	10	0
,, (tartar emetic) .. .. per lb.	0	1	0
,, (golden sulphide) .. .. ,,	0	0	10
Barium Chloride .. .. per ton	7	10	0
,, Carbonate (native) .. .. ,,	3	10	0
,, Sulphate (native levigated) .. .. .. ,,	45/- to 75/-		
Bleaching Powder, 35 % .. .. nett ,,	7	15	0
,, Liquor, 7 % .. .. ,,	3	10	0
Bisulphide of Carbon .. .. ,,	11	15	0
Chromium Acetate (crystal) .. .. per lb.	0	0	6
Calcium Chloride .. .. per ton	2	5	0
China Clay (at Runcorn) in bulk .. .. .. ,,	17/6 to 35/-		
Coal Tar Products and Dyes :—			
Alizarine (artificial) 20 % .. .. .. net per lb.	0	0	8
Magenta .. .. ,,	0	3	9
Anthracene, 30 % A, f.o.b. London .. per unit per cwt.	0	1	1
Benzol, 90 % nominal .. .. .. per gallon	0	1	5
,, 50/90 ,, ... ,,	0	1	6
Carbolic Acid (crystallised 40°) .. .. . per lb.	0	0	6¼
,, (crude 60°) .. .. per gallon	0	1	7
Creosote (ordinary) .. .. ,,	0	0	2½
,, (filtered for Lucigen light) .. .. ,,	0	0	3
Crude Naphtha 30 % @ 120° C. .. .. .. ,,	0	0	9
Grease Oils, 22° Tw. .. .. per ton	2	5	0
Pitch, f.o.b. Liverpool or Garston .. .. .. ,,	1	9	0
Solvent Naphtha, 90 % at 160° .. .. .. per gallon	0	1	4
"Lucigen" and "Wells Oils .. .. ,,	0	0	2½
Copper .. .. per ton	42	12	6
,, Sulphate .. .. ,,	15	15	0
,, Oxide (copper scales) .. .. ,,	40	0	0
Glycerine (crude) .. .. ,,	13	0	0
,, (distilled S.G. 1250°) .. .. ,,	43	0	0
Iodine .. .. nett, per oz.	0	0	9
Iron Sulphate (copperas) .. .. per ton	1	10	0
,, Sulphide (antimony slag) .. .. ,,	2	0	0
Lead (sheet) for cash .. .. ,,	10	15	0
,, Litharge Flake (ex ship) .. .. ,,	13	0	0
,, Acetate (white ,,) .. .. ,,	26	0	0
,, ,, brown ,,) .. .. .. ,,	17	10	0
,, Carbonate (white lead) pure .. .. .. ,,	20	0	0
,, Nitrate .. .. ,,	20	0	0
Lime, Acetate (brown) .. .. per ton	6	17	6
,, ,, (grey) .. .. ,,	10	15	0
Magnesium (ribbon and wire) .. .. per oz.	0	2	3
,, Chloride (ex ship) .. .. per ton	2	10	0
,, Carbonate .. .. per cwt.	1	17	6
,, Hydrate .. .. per ton.	17	0	0
,, Sulphate (Epsom Salts) .. .. .. per ton	2	19	0
Manganese, Sulphate .. .. ,,	17	15	0
,, Borate .. .. per cwt.	2	12	6
,, Ore, 70 % .. .. per ton	4	5	0
Methylated Spirit, 61° O.P. .. .. per gallon	0	2	2
Naphtha (Wood), Solvent .. .. ,,	0	3	9
,, ,, Miscible, 60° O.P .. .. .. ,,	0	5	0
Oils :—			
Cotton-seed .. .. per ton	22	0	0
Linseed .. .. ,,	21	10	0
Petroleum, Russian .. .. per gallon	0	0	3¾
,, American .. .. ,,	0	0	5¾
Phosphorus (yellow) .. .. per lb.	0	2	2
,, (red) .. .. ,,	0	2	9
Potassium (metal) .. .. per oz.	0	3	7
,, Bichromate .. .. nett per lb.	0	0	4½
,, Carbonate, 90% (ex ship) .. .. .. per ton	16	10	0
,, Chlorate .. .. per lb.	0	0	7¾
,, Cyanide, 98% .. .. ,,	0	2	0
,, Hydrate (Caustic Potash) 80/85 % .. per ton	21	15	0
,, ,, (Caustic Potash) 75/80 % .. ,,	20	10	0
,, ,, (Caustic Potash) 70/75 % .. ,,	20	0	0
,, Nitrate (refined) .. .. per cwt.	1	2	6
,, Permanganate .. .. per cwt.	3	5	0
,, Prussiate Yellow .. .. per lb.	0	0	10¾
,, Sulphate, 90 % (ex ship) .. .. .. per ton	9	15	0
,, Muriate, 80 % (do.) .. .. .. ,,	8	0	0
Silver (metal) .. .. per oz.	0	2	7½
,, Nitrate .. .. ,,	0	2	10
Sodium (metal) .. .. per lb.	0	3	4
,, Carb. (refined Soda-ash) 48 % .. nett per ton	5	5	0
,, ,, (Caustic Soda-ash) 48 % . ,, ,,	4	5	0
,, ,, (Carb. Soda-ash) 48% .. .. ,, ,,	4	5	0
,, ,, (Carb. Soda-ash) 58 % .. .. ,, ,,	4	2	6
,, ,, (Soda Crystals) .. .. .. ,, ,,	3	0	0
,, Acetate (ex-ship) .. .. ,,	16	0	0
,, Arseniate, 45 % .. .. ,,	11	0	0
,, Chlorate .. .. per lb.	0	0	8¾
,, Borate (Borax) .. .. net, per ton.	28	10	0
,, Bichromate .. .. ,, per lb.	0	0	3¾
,, Hydrate (77 % Caustic Soda) (f.o.b.) net pr. ton (10 ton lots)	11	5	0
,, ,, (74 % Caustic Soda) ,, ,, ,, (10 ton lots)	10	5	0
,, ,, (70 % Caustic Soda) ,, ,, ,, (10 ton lots)	9	5	0
,, ,, (60 % Caustic Soda) .. ,, ,, (10 ton lots)	8	5	0
,, ,, (60 % Caustic Soda, cream) (f.o.b.) ,, (10 ton lots)	8	0	0
,, Bicarbonate .. .. ,,	6	15	0
,, Hyposulphite .. .. ,,	6	10	0
,, Manganate, 30% .. .. ,,	16	0	0
,, Nitrate (95 %) ex-ship Liverpool .. .. per cwt.	0	9	1½
,, Nitrite, 98 % .. .. per ton	29	10	0
,, Phosphate .. .. ,,	15	0	0
,, Silicate (glass) .. .. per ton	5	7	6
,, ,, (liquid, 100° Tw.) .. .. .. ,,	4	5	0
,, Stannate, 40 % .. .. per cwt.	3	0	0
,, Sulphate (Salt-cake) .. .. per ton.	1	0	0
,, ,, (Glauber's Salts) .. .. ,,	1	10	0
,, Sulphide .. .. ,,	8	10	0
,, Sulphite .. .. ,,	5	15	0
Strontium Hydrate, 100% .. .. ,,	8	10	0
Sulphocyanide Ammonium, 95 % .. .. per lb.	0	0	7¼
,, Barium, 95 % .. .. ,,	0	0	5¼
,, Potassium .. .. ,,	0	0	7
Sulphur (Flowers) .. .. per ton.	8	0	0
,, (Roll Brimstone) .. .. ,,	6	10	0
,, Brimstone : Best Quality .. .. .. ,,	4	2	6
Superphosphate of Lime (26%) .. .. ,,	2	7	6
Tallow .. .. ,,	28	0	0
Tin (English Ingots) .. .. ,,	78	0	0
Tin Crystals .. .. per lb.	0	0	6¾
Zinc (Spelter) .. .. per ton	16	12	6
,, Chloride (solution, 96° Tw.) .. .. .. ,,	5	15	0

THE

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LATE ADVERTISEMENT.

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Advertisements intended for insertion in the current week's issue should reach the office by **Wednesday morning** at the latest.

CURRENT TOPICS.

SOLID *versus* SUSPENDED MATTERS.

WHEN almost two years ago, in criticising the latter portion of the Mersey and Irwell Joint Committee's Bill, we pointed out that the interpretation of the term "solid matter," as specified in the Act, afforded to the manufacturer a convenient means of getting rid of the fluid sludge which collects at the bottom of his settling tanks; several correspondents expressed the opinion that we were not warranted in assuming that a polluter was at liberty to convert the whole of his solid refuse into "suspended matters," and to dispose of the same by turning it into the nearest river or watercourse. We were, however, in view of the wording of the Act, unable to change the opinion which we first entertained.

An incident in the proceedings of the last meeting of the Mersey and Irwell Joint Committee virtually confirmed this opinion. A certain manufacturer has evidently discovered, on his own account, the loop-hole which is afforded him for the time being at all events, in that he has been running off his settling tanks when he found it desirable, at night, thereby turning into the river, in a state of suspension, all the solids which have been precipitated from his waste waters. By so doing he cannot be summoned for putting, or causing solid matters to be put, into the river, but he must be given a month's notice, to show cause why proceedings should not be taken against him, after which, if a satisfactory explanation is not forthcoming, application can be made to the Local Government Board for permission to take proceedings, since in the words of the Act, the term "solid matter" does not include the presence of matters in suspension in water.

As this portion of the pollution is thus exempted, and presuming—as is most likely the case—that the fluid in which the solid matter is suspended is decently good water, it becomes an interesting point to know what view a court of summary jurisdiction would take in such a case.

The Committee are fully alive to the importance of dealing firmly with the practice of running off settling-tanks during the night; and, from their present attitude, it is evident that they apprehend a considerable extension of this method of cleaning settling-tanks, unless the first cases of the kind are promptly and rigorously dealt with.

It would, of course, much simplify matters if a summons could be issued against the manufacturer for turning solid matters into the river or stream; but, as it is, one month's notice of proceedings must be given, since the pollution falls under the heading of liquid manufacturing pollution, after which a Local Government Board inquiry will be held, and within three months permission either will or will not be given to prosecute, a procedure which will be found irksome indeed, should a number of such cases have to be dealt with. Taking all things into consideration, it will not be surprising if this prove to be the case, as manufacturers have already

been known to openly boast of the success which attends this method of disposing of the solid matter which they have been storing up in their settling-tanks to prevent pollution. It will be interesting and of considerable moment to manufacturers to follow closely the action taken by the Joint Committee in the case to which we referred at the outset, as the lines upon which they move in this, the first case of its kind, will form a precedent for dealing with future cases.

ANOTHER TAR PRODUCTS COMBINE.

As has already been shown last week, the present year found the position of tar products, and especially of benzol and anthracene, in a worse position as regards prices than it was last year. And the beginning of this year also brings before us a repetition of the same means which were adopted about a year ago in the endeavour to raise prices to a remunerative level, since elsewhere in our columns this week we record the formation of a limited company, in the shape of a committee, for regulating the sales of tar products. There is in all conscience ample scope for improvement in this direction, but we fear that although a temporary advance in the price of benzol may be effected, as was the case last year, it will not last for long. No doubt since it has been proved to be quite impossible to effect anything like combination amongst tar producers, the formation of a committee to buy as cheaply as they can, and to sell with a rising market by holding their hand until the demand improves, is the only course open to those who have to deal with tar products. It is obvious that such a system must necessarily at times prove anything but beneficial to producers, since come what may, they can only expect to sell at prices which have been pared down as low as possible, because the Sales Committee cannot squeeze the lemon as dry as they might, on account of having to compete with the products which are now being so extensively produced on the continent. There is hardly, we should think, any one who would not wish to see benzol, at all events, sold at a "living price," and we can only hope that the latest effort to accomplish this end may be attended with better success than the last.

THE RIBBLE JOINT COMMITTEE.

A MEETING of this Committee was held on Monday last, at the County Hall, Preston, Mr. T. Lightbown presiding. In thanking the members of the Committee for having elected him as vice-chairman, Mr. Lightbown reviewed their position. There had been in the past, he said, two separate and contradictory criticisms on the Committee's action. One, which had arisen chiefly from the lower reaches of the stream, represented that the Joint Committee had acted [with too great consideration towards local authorities and manufacturers, from whom the the pollution came, and it was pointed out that the river is in no better condition to-day than it was two years ago. Another much larger complaint arose from the upper reaches, where the pollution was greatest. It was to the effect that the Committee were injuring the county. These critics said competition was so great between one district and another, and between other countries and our own, that the imposition of any excessive burden upon them must of necessity injure trade, and with it the general interests of Lancashire. They had no desire to do this. He did not admit the justice of either of these complaints. He believed that before the end of 1894 a very substantial improvement would be witnessed. The Committee dealt with a number of cases of local authorities and manufacturers. Several paper makers who appeared were required, failing satisfactory negotiations with the local authorities, to bring definite schemes for the treatment of their effluent before the Committee at a subsequent date. The clerk reported that 18 out of 29 bleachers, calico printers, and dyers in the watershed had signed an agreement undertaking to carry out and have in operation works for the treatment of their effluent by the beginning *of next October. This is* regarded as extremely gratifying.

SCOTTISH OIL AND PARAFFIN INDUSTRI
1893.

(Specially Contributed.)

THE year just closed has been the blackest on the record si industry arose. A few years ago handsome dividends w rule, the high mark of 30 per cent having been attained; one c paid 25 per cent. on the ordinary stock year after year. Figure and 15 were common, and anything below 10 per cent. was lo as rather a sorry outcome. During the struggling years succee crisis of 1887 there was always something available for division, sadly reduced; and 1892, gloomy as it was with its record works going into liquidation, had still three of the companies w able to muster a trifle of dividend. To 1893 has been reser unwelcome distinction of being the first year of total sterili company has paid anything, and one or two of them came out positive working loss. One example might be constituted as a exception, being that of the Dalmeny Oil Company, which, to the general rule, closes its books towards the end of the y of which amongst the latest days of December it was announce the annual general meeting, to be held in January, the directo be in a position to propose a 10 per cent. dividend. The I case, it will be seen, comes more properly in as an 1894 dividend paying. Moreover, the Dalmeny is the very smallest Scottish Mineral Oil Companies. It does no refining, an the market with crude oil only and sulphate of a the greatly improved position of the latter standing, ind the sole cause of its being able to pay anything at all. Matte have been still worse for the other larger and non-paying co but for this improvement in sulphate of ammonia. This is a tant, though not a very largely bulking, product of shale dis and up to 1893 (ever since the bad years set in) its market v been more or less unsatisfactory. From the advent of 1893, h sulphate steadily mounted in value, till it touched a mark of o f.o.b. Leith. This occurred towards the beginning of Sep subsequently, there was a declension, but prices still kept goo whole, and the year closed on quite a firm and satisfactory Outside of this one product, however, the values for the most p been going the other way, and just at a time when they were too low, and when the industry could badly bear any further sh Only in the lower gravities of the lubricating oils (840° and 865 there be detected any signs of growth, these during the yea slightly gained in value, touching at the close a range of £4. 10s., according to gravity and grade. These gravities have s making way as gas-making oils, and to this alone is due their position; for, as lubricating oils exclusively, they would certa lost value over the year rather than gained. This is proved experience of the higher gravities of the lubricants, viz., 885° which have been confined exclusively to the one outlet as bef have lost from 5s. to 10s. The protracted cotton dispute in La with attendant stoppage of machinery, first sorely hurt this secti market, and then, after some small recovery, it was again very bad the English coal strike and widespread stoppage of works. The c in Scotland, which immediately followed the other, implied a ance of the damage and at nearer range, but it was of very sh tion. Burning oil forms the great bulk of the productio industry; when it is on a remunerative market everything is v it does not matter very much whether quite good values are the rest of the products or not. But burning oil values have b and more held down by the rivalry of American and petroleum, and even during 1892 they were at far too low an that year makers looked for 5½d. per gallon, grade No. 1 oil 62 per cent. of the whole production agreed to be kept for dis consumers in Scotland, and they got that only partially difficulty. When the contract-making time in 1893 arrived found that a further drop was necessary if the selling power w be lost altogether, and so another halfpenny was knocked off, the value down to 5d. per gallon. Here is the main cau critical depression in the industry, and of the extinction of divi shareholders. Burning oil, the staple, has had to be brought within a shave of selling at a positive loss. And it has to be bered that the residue of the production of burning oil (over th cent.) has to go to English and Irish buyers at a price lowe further fraction, else it would not be sold at all. The fall in 1893, seemed to meet the views of the market, for were at once available and were entered into affecting about t of the production over the season 1893–4, and since the i of the winter, deliveries from the works have been very large. same time, the solid paraffins (scale and wax) have been sta low values, with occasional slight rallies not maintained; a also, the margin between positive loss and a slight profit is narrow. Scale has been fetching 1⅞d. per lb, (as against 3

the great market collapse), and wax 2⅜d. (as compared with 3⅝d. to 4d.) Paraffin spirit (naphtha), which early in 1891 stood at 8d. per gallon, touched the very low mark of 3¾d. during 1893, but is now somewhat recovered at about 4½d. From the foregoing it will be seen that with two exceptions the products of the industry has kept persistently on the down grade. The exceptions, as already stated, were sulphate of ammonia and the gas-making oils. The entire production of these, however, is relatively small, and the benefit conferred by the bettered prices has been only too easy of measurement. Still, but for the higher values got in these, and more particularly as regards sulphate of ammonia, the position of the industry, desperate as it is now, would have been more desperate still. American and Russian oils imported into Great Britain are of low flash point, while the Scotch oil is never below 100°. Restriction as to this feature has been in agitation, under the initiation of the Scottish Section of the Society of Chemical Industry, and the movement is to be continued during 1894. If imported oils were, by Act, restricted to a flash point not lower than 100° (contended for as the lowest point for safety in handling lamps), the benefit to the languishing Scottish industry would, no doubt, be immediate and palpable, without entailing any rise of price to the consumer worth thinking of; but the prospects of such a measure being soon carried through are certainly not at all bright. One product not referred to in the above is the paraffin candle (a considerable bulk of production), and neither has its position on the market been satisfactory. There is no common understanding now as to prices, other than a merely nominal one, and some of the makers have, it is said, been cutting in with low prices. Of the companies which still cling to the position of going concerns, even in the face of repeated losses, the Linlithgow is that which has suffered most, last balancing having shown a further loss of some thousands. Another re-arrangement of the capital account is proposed. Some of the companies, although short of a positive loss, have had to dispense with the necessary writing-off for depreciation, merely carrying forward to 1894 what trifling balance to the good there may be, in the somewhat forlorn hope of the next squaring of books proving a more satisfactory operation. The Broxburn Company, (always hitherto the hardiest of all), like the rest this time, had nothing for the ordinary shareholders, but was able to effect a due writing-off for depreciation and maintenance of works, while at the same time carrying forward something to next balancing. The Pumpherston Company and Young's Paraffin, were in a similar position of comparative incompetency, also for the first time in the general history. The Burntisland Company, which went into liquidation, and closed works, failed to get any offers for the purchase of works and plant, and has been trying resuscitation, but with no manifest success as yet. The Clippens Company, which also went into liquidation, has been kept up a going concern by the liquidators, as the only possible alternative at present, and with, as an accompaniment, the formation of a new company, composed of the old shareholders and their creditors in combination. In the existing condition of the general industry, it is scarcely possible to conceive of these two concerns (Burntisland and Clippens) working out their salvation on the lines now being essayed, when it is borne in mind that the intact companies themselves are trembling for their existence. The year now entered on is bound to be a momentous one for the industry.

PETROLEUM BRIQUETTES.

THE method of making fuel bricks of crude petroleum adopted by Engineer Maestracci, of the Italian Navy, is as follows: The bricks are of similar form and size to the coal briquettes extensively used in France and Germany. The mixture is made in the proportion of 1 litre of petroleum, 10 per cent. of rosin, 150 grams of powdered soap, and 333 grams of caustic soda. The mixture is heated and stirred at the same time; solidification begins in about 10 minutes, and the operation must then be carefully watched. If there is a tendency to remain liquid, a little more soda is added. The mixture is stirred until the mass becomes nearly solid. The thin paste is then poured into the moulds, which are placed for 10 or 15 minutes in a drying stove. The briquettes are then cooled, and are ready for use in a few hours.

Signor Maestracci recommends the addition of 20 per cent. of wood sawdust and 20 per cent. of clay or sand, which will make the briquettes cheaper and more solid. In trials made at Marseilles on several tug boats the petroleum briquettes furnished about three times as much heat as coal briquettes of the same size. They were burned in the ordinary boiler furnace, without any special preparation, and gave out very little smoke, leaving also little or no ash. The advantages claimed for the petroleum briquettes for marine use are the absence of smoke and a large reduction in bulk of fuel which must be carried, as compared with coal, while the risks attending the carrying of liquid fuel are avoided.

IMPORTS AND EXPORTS FOR DECEMBER.

THE Board of Trade returns for December, 1893, again show a large falling off in trade, as compared with same month in 1892. In the imports, oils were freely landed, save in the case of cocoa-nut; while tallow, resin, and india-rubber show an increase. In exports, alkali and bleaching materials together show a decrease of 206,338 cwts. The exports of salt, however, were larger.

IMPORTS OF FOREIGN AND COLONIAL PRODUCE.

	Quantities. 1892.	1893.
Margarine ..... Cwt.	126,492	120,320
Copper ore and regulus .....Tons.	24,891	16,816
Hides—dry and wet ..... Cwt.	88,528	96,066
Nitrate of soda.....Tons.	9,732	5,020
Tallow and stearine ..... Cwt.	83,901	139,953
Tin ..... Cwt.	72,119	50,477

EXPORTS OF BRITISH AND IRISH MANUFACTURES.

	Quantities. 1892.	1893.
Alkali ..... Cwt.	577,413	427,740
Cement .....Tons.	49,801	30,223
Coal and Coke .....Tons.	2,606,638	2,312,944
Copper—all kinds ..... Cwt	122,594	71,345
Iron and Steel.....Tons.	226,168	194,598
Chemical Manures .....Tons.	28,759	21,145
Oils—seed .....Tons.	5,657	5,348
Salt .....Tons.	41,291	43,394

EXPORTS OF ALKALI AND BLEACH.

THE following figures, which are taken from the official foreign and colonial statistics of the United Kingdom, give the amount and value of alkali and bleaching materials shipped to the undermentioned countries during the month of December, 1893, as compared with the same month in 1892:—

ALKALI.

Port.	1892. Cwts.	1893. Cwts.	1892. £	1893. £
Russia	21,772	11,838	9,025	4,782
Sweden and Norway	6,144	17,041	2,007	4,104
Germany	12,769	14,648	5,524	4,411
Holland	5,076	8,768	2,142	1,602
France	3,504	1,485	1,504	627
Spain and Canaries	17,786	15,907	8,554	7,038
Italy	13,704	14,913	5,770	4,882
United States	343,307	294,247	108,375	76,591
Australasia	15,195	13,908	4,868	4,330
British North America ..	30,545	21,618	9,183	6,155
Other countries	73,945	62,641	26,896	20,118
Total.....	543,747	477,014	183,848	134,640

BLEACHING POWDER, ETC.

Port.	1892. Cwts.	1893. Cwts.	1892. £	1893. £
United States	78,754	27,808	33,048	11,976
Other countries	52,993	40,939	20,290	16,599
Total.....	131,747	68,747	53,338	28,575

MESSRS. F. REDDAWAY AND CO.—We learn that this well-known firm of belting manufacturers has taken over the business of the Sphincter Hose and Engineering Company, hydraulic, fire, and general engineers, London and Northampton.

THE "BONUS" SYSTEM AT ST. HELENS.—An interesting proceeding took place at the Cornwall Lead Works, St. Helens, recently, when the employers and workmen met to share the bonus of the year. Mr. Michell, of the firm of Holman, Michell, and Co., said the first year's working on the bonus system had been somewhat interfered with by bad trade consequent on the coal strike, but he hoped 1894 would bring them more satisfactory results. He then banded each man an amount varying from £5 to £8.

THE MERSEY AND IRWELL JOINT COMMITTEE.

THE usual monthly meeting of this committee was held at the offices, Mosley-street, Manchester, on Monday last, with Mr. Alderman J. Thompson in the chair.

The Chief Inspector (Mr. R. A. Tatton) in his report set forth the position of those authorities which came up for consideration. He also stated that he had received various complaints as to the fouling of Timperley Brook, and had lately made a careful inspection of the brook in order to ascertain the source of pollution. Formerly, the brook was polluted by discharges from the gasworks and from a slaughter-house, but these had been discontinued, and he was of opinion that the storm overflows from the Altrincham Local Board sewers were responsible for the pollution. The attention of the authority had been called to the matter.

Liquid Manufacturing Pollution.—He also reported that good progress was being made in the district generally with works for the purification of manufacturers' waste waters, and it is evident that in three months' time very few of the 191 works which he had reported in October last as having adopted no treatment would be still in that condition. At many works also, where tanks had been constructed, but where the treatment was not efficient, the methods have been improved either by using precipitants or otherwise.

Thirty-four works were coming up this month for the consideration of the committee, the extension of time granted to them having expired; of these, 27 are making good progress, 2 are making progress but not very rapidly, and at 5 works nothing has been done. These five cases have been considered by the Chemical Sub-Committee, and the course of action advised is dealt with in their report.

A case of serious pollution from the tanks of Mr. John Leach, fuller, Littleborough, was reported, and as there have been complaints on several occasions, he thought it advisable that notice be served on the firm.

According to the recommendations of the

CONSULTING SUB-COMMITTEE

Mossley, Mottram, Chadderton, and Gorton, were found to be making reasonable progress, and were allowed three months. The Bolton Rural Sanitary Authority was granted two months, the Chief Inspector being requested to call the attention of the Bolton Corporation to the necessity of dealing with their storm overflows. One month was allowed to Ramsbottom, Droylsden, Aspull, and the petition against the Bury Corporation Bill was postponed for the same period. In connection with the latter case, Mr. Brierley (Bury) explained to the committee that the Corporation had decided to submit their plans for sewage works to the Local Government Board. They had practically agreed with the Local Government Board as to the terms, and it was hoped that there would be no necessity to proceed with the Bill asking Parliament to give them five years to construct the works. A resolution was also passed in support of the West Riding Rivers Conservancy Bill.

Mr. Hulton (the Clerk) read an order made by the Local Government Board for the payment by the Committee of costs incurred in connection with the Local Government Board inquiries as to pollution by manufacturers.

Mr. Alderman Thompson said it was unfair to saddle the Committee with the whole cost of such proceedings, and he moved—"That in the opinion of this Committee the expense of holding the inquiries under the Mersey and Irwell Joint Committee Act ought to be borne and paid by the parties offending against the Act and in respect of whom the sanction of the Local Government Board is required before proceedings can be commenced."

Mr. J. P. Haslam, in seconding the resolution, pointed out that proceedings were never taken till after the parties had had ample opportunity, if they wished to do so, of complying with the demands of the Committee.

THE CHEMICAL SUB-COMMITTEE

reported as follows upon the undermentioned firms:—

Turnbull and Stockdale.—It appears that this firm are only making slow progress with the construction of the necessary works for the treatment of their effluent; your Sub.Committee have therefore instructed Mr. Tatton to write and inform them that, as the Committee believe they are anxious to do what is necessary, they will take no further steps at present, but unless greater progress is made in the futnre, action will be taken.

Gibson and Costabadie.—This firm are in a similar position to Messrs. Turnbull and Stockdale, and your Sub-Committee have instructed Mr. Tatton to write them a similar letter.

E. Leach, Bamford Brothers, and *Stott Brothers* were each allowed one month.

T. G. Stark.—At a meeting of the Joint Committee, held on the 18th of September, Mr. Stark appeared, and stated that he was prepared to *construct settling tanks and* filter beds, plans of which he had with him. This he does not appear to have done, and the Sub-Committee fore recommend that application be made to the Local Gover Board for leave to take proceedings against him.

John Mellor and Son, Crumpsall Vale.—This firm also ap before the Joint Committee on the 18th September last, whe William Mellor stated that they had sufficient land on which down settling tanks. The firm do not appear to have made satis progress in carrying these out, and the Sub-Committee have th instructed Mr. Tatton to write and inform the firm that they ha under consideration the question of taking proceedings against but have not done so this month on the understanding that progress will be made in the future.

A. and A. Crompton, Limited.—Mr. Tatton reports that he c no pollution entering the stream at present from these works, ar it has probably been diverted.

Blair and Sumner.—This firm was summoned to attend t meeting of the Joint Committee, and failed to do so, and unle can give a satisfactory explanation to-day of their position, you Committee recommend that application be made to the Local G ment Board for leave to take proceedings against them.

James Mellor, Cratton, Lees, Oldham.—This manufacturer at the meeting, and was given three months to provide the nec works.

Handforth Printing Company.—In accordance with a res passed at the last meeting of the Joint Committee, that they w satisfied with the progress made by this firm in carrying out wo the treatment of their effluent, a letter was forwarded them by th to that effect. In answer to this, a communication had been re explaining the delay in completing the works, and Mr. Tatto reports that better progress is being made.

John Leach, Longden End Mill, Littleborough.—This manuf has tanks in operation, but from time to time runs them off, t causing great pollution. In consequence of this numerous com have been made to the Chief Inspector. The Sub-Committee th recommend that notice of one month be given to show cause wh ceedings should not be taken.

Mr. V. K. Armitage called attention to the case of Mr. John Longden End Mill, Littleborough, who, it was stated, had ta operation, but ran them off from time to time, causing great pol This was the first case of the kind that had come before the Com and he was afraid that in future they would have a great deal o culty with similar cases. Manufacturers would put down tanks a them off into the river during the night.

On the motion of Mr. T. W. Killick, seconded by Mr. J. P. H a resolution was passed that the attention of local authorities sho called to the desirability of arrangements being made for facilitati removal of solid refuse from the premises of manufacturers.

RECENT CUSTOMS DECISIONS.

BUTYRIC ETHER.

In the matter of the protest of Merck and Co., against the de of the collector of customs at New York as to the rate and amo duties chargeable on certain butyric ether, imported September 1892, the following is the opinion by General Appraiser Wilkinso

The merchandise is butyric ether. It was assessed for duty at per pound as a fruit ether or essence under paragraph 25, N. T., claimed to be dutiable at $1 per pound under the same paragrap

The article is enumerated on page 1,800 of the United State pensatory as a fruit essence or ether. We find that it is a fruit e or ether, and affirm the assessment of duty.

SODIUM SALICYLATE POWDER.

In the matter of the protest of Merck and Co., against the de of the collector of customs at New York as to the rate and amo duties chargeable on certain sodium salicylate powder, im November 28th, 1892, the following is the opinion by General Ap Wilkinson:

The merchandise is sodium salicylate powder.

We find that it is a medicinal preparation not containing al and in the preparation of which alcohol was not used.

We accordingly overrule the claim that it is dutiable under para 19, N. T., and affirm the assessment of duty at 25 per cent. paragraph 75.

CRUDE EOSINE.

In the matter of the protest of Wm. J. Matheson and Co., against the decision of the collector of customs at New York as rate and amount of duties chargeable on certain crude eosine im November 25th, 1892, the following is the opinion by G Appraiser Lunt:

We find that William J. Matheson and Co., Limited, importe the port of New York, November 25th, 1892, certain merch

invoiced as crude eosine, which was assessed for duty at 35 per cent. *ad valorem* under the provisions of paragraph 18, N. T., and which is claimed to be free under the provisions of paragraph 473, or that it should be otherwise classified for duty under section 19 at 20 per cent. *ad valorem*.

We find the so-called crude eosine is one of the so-called resorcinol colours, and that it is a coal-tar preparation, chemical compound, and a coal-tar colour or dye.

We hold that the same is specially provided for in paragraph 18, and upon our findings overrule the protest.

SOCIETY OF CHEMICAL INDUSTRY.

MANCHESTER SECTION.

THE third meeting of the session of this section was held on the 5th inst., in the rooms of the Chemical Club, Victoria Hotel. Dr. Charles Dreyfus, who presided (in the absence of the chairman of the section, Mr. Ivan Levinstein), referred to the importance of the opening of the Ship Canal in its bearing on the chemical trades, and submitted a motion congratulating the directors and the shareholders of the Canal Company on the completion of their work and wishing all success to the undertaking.—The motion was seconded by Mr. James Hart, and adopted.—Mr. Grimshaw spoke of the uncertainty and ignorance which had hitherto prevailed amongst railway companies and other carriers of goods with regard to chemicals, and of their failure to realise the magnitude of the chemical industries of this country. The quantity of iron ore, sulphur, and the various forms of alkali and other heavy chemicals that came into this district would run into hundreds of thousands of tons per annum. It behoved the members of the Society to bring home to the Canal Company and the carriers on the Canal the magnitude of the trade and the importance of the rates for freight being of a satisfactory character.—The Chairman said he understood the matter referred to by Mr. Grimshaw was already under the consideration of the Chemical Section of the Manchester Chamber of Commerce, but possibly good might be done by the appointment of a committee to take action on behalf of the Society. He could confirm every word of what Mr. Grimshaw said. The moment you called goods chemicals the Liverpool shippers took fright, and would only take them on deck and at owners' risk. In this way the chemical industry of this country was carried on at a great disadvantage. In the case of places like Antwerp, Rotterdam, and Havre there was no difficulty in shipping any kind of chemicals, and the charges were far more reasonable than at Liverpool or any place on the East Coast. And there were some curious inequalities in the charges. Copperas, for instance, was charged differently from sulphate of iron. The rates for zinc chloride were dearer than those for muriate. All this was due to the ignorance that prevailed with regard to chemicals. He hoped they might succeed in getting facilities in Manchester such as they had hitherto not been able to obtain from Liverpool. (Applause.)—It was agreed to postpone to a future meeting any action in the direction suggested by the chairman.

The Chairman also moved a resolution to the effect that the London Council of the Society should be requested to send a free copy of the Society's journal to the King-street Free Library, which resolution was adopted, Mr. Grimshaw seconding.

Dr. C. O. Weber then proceeded to read his paper on the "Vulcanisation of Rubber." Having briefly pointed out the position in which the present knowledge of the vulcanisation of india-rubber stood, in relation to the experiments made by Gregory and others as long as sixty years ago, the author next reviewed the work which had been done upon isoprene as being the most interesting and important product of the dry distillation of rubber. Amongst other contributors to the study of this compound, mention was made of Tilden's experiment of distilling turpentine through porcelain tubes at a dull red heat, thereby obtaining a compound which subsequently polymerised into india-rubber. A brief review of the existing theories of the vulcanisation of rubber was then given, after which the experiments of the author were detailed. These chiefly went to prove (and it must be said did so with considerable success), that the theory of the evolution of sulphuretted hydrogen was erroneous, and that chlorine was not the essential ingredient in the sulphur chloride vulcanising process. The experiments made by the author differ from those formerly made by other investigators, in that every precaution was taken to use only the purest of rubber and chloride of sulphur; it being shown that when sheets of rubber, however thin, were immersed in a solution of chloride of sulphur in carbon bisulphide, it was practically impossible to obtain a homogeneous compound, and further that when the sheets were removed from the vulcanising solution, CS_2 evaporated, leaving a film of moisture on the sheet. Consequently the excess of sulphur chloride adhering to the rubber sheet was decomposed by this moisture into free sulphur and hydrochloric acid, a fact which may have had something to do with the erroneous conclusions of previous investigators. From personal experience of the process of vulcanisation in Waddington's continuous stove, he had never found, if the rubber was properly dried, the slightest trace of sulphuretted hydrogen given off. The experiments detailed by the author left little room for any doubt as to whether the vulcanising action of chloride of sulphur is due to the sulphur, or chlorine of this compound, especially when it can be shown that the state of vulcanisation remains the same with or without the chlorine. This statement is diametrically opposed to the hypothetical explanations propounded by other experimenters. The two statements, however, were in a measure made reconcilable by the author explaining that chlorine produced an effect upon rubber which might be mistaken for genuine vulcanisation, although in reality it was nothing of the sort. According to the author the compound which plays a chief part in the vulcanising process is the polyprene sulpho-chloride of the formula ($C_{10}H_{16}S_8Cl_2$). He further stated that there is no doubt that the degree of the vulcanisation of rubber articles must vary, and should be regulated according to the use to which the articles were intended to be put. Manufacturers were fairly well aware of this, although in his opinion much too little attention had been given to the matter, owing largely, no doubt to the vulcanising process so far never having been properly understood; since to-day the question stands pretty much where it was left by Goodier and others fifty years ago.

In conclusion, the author stated that, from the experiments which he had been making, he was of the opinion that although the vulcanisation of rubber articles with chloride of sulphur was at present of rather limited applicability, nevertheless he felt justified in expressing an opinion, of which he hoped ere long to have proof, that the vulcanising process for the future for all kinds of rubber articles would be based upon the chemical theory of the chloride of sulphur vulcanisation which he had been propounding. No doubt difficulties existed, but they were not insurmountable, and he ventured to believe that both the cold cure and the sulphur cure would be subsequently altogether superseded.

In the discussion which followed Messrs. Terry, Irvine, MacDonald, and the chairman took part. In the absence of those most likely to have taken upon themselves the task of criticising the paper severely, the discussion was of an unimportant and rather desultory nature. Dr. Weber, after reading his paper, exhibited Beckmann's apparatus for estimating the depression of boiling and freezing points, with which the meeting, which was on account of the severe weather rather poorly attended, terminated.

THE GAS SUPPLY OF LONDON.

THE quality of the gas supplied to the City of London for the week ending December 23rd, 1893, was good. According to the report of Mr. W. J. Dibdin, chemist and superintendent gas examiner to the London County Council, the tests made at the various testing stations showed no deficiencies in illuminating power. The following figures have been prepared from the report, and show the average composition of the gas calculated on the mean test:—

Company.	No. of districts tested.	Illuminating power (in stand. sperm candles). Mean average.	Sulphur. Grains in 100 cb. ft. Mean average.	Ammonia. Grains in 100 cb. ft. Mean average.	Sulphuretted hydrogen.
Gas Light and Coke Co.	12	16·3	11·2	0·29	Nil.
South Metropolitan Gas Co.	6	16·5	10·4	0·41	Nil.
Commercial Gas Co. ..	2	16·5	11·9	0·35	Nil.

The supply for week ending December 30th, 1893, was also good. The mean test calculated as above was:—

Company.	No. of districts tested.	Illuminating power (in stand. sperm candles). Mean average.	Sulphur. Grains in 100 cb. ft. Mean average.	Ammonia. Grains in 100 cb. ft. Mean average.	Sulphuretted Hydrogen
Gas Light and Coke Co.	14	16·20	10·7	0·25	Nil.
South Metropolitan Gas Co.	5	16·30	10·7	0·38	Nil.
Commercial Gas Co. ..	2	16·25	8·5	0·35	Nil.

The standard gas supplied by these companies should have an illuminating power of 16 sperm candles, and contain not more than 22 grains of sulphur and 4 grains of ammonia per 100 cub. ft. of gas, on an average of three days, with a pressure of one inch between sunset and midnight, and six-tenths of an inch between midnight and sunset.

Paper-Makers' Column.

TESTING COLOURS USED FOR PAPER-MAKING.

[SPECIALLY CONTRIBUTED.]

(Continued from p. 418, Vol. XIII.)

II.—ORGANIC COLOURS.

TO these belong all colours derived from vegetable or animal sources. Under this heading it will be convenient to note those colours alone which do not come under the coal-tar group. Their use in the paper industry is somewhat limited, having for the most part been superseded by the coal-tar dyes.

RED DYES.

Cochineal (*Coccus Cacti*) is the body of an insect which lives on the hopal plant. It contains the so-called carminic acid, which yields by the action of sulphuric acid or alum the well-known very beautiful red colour *carmin*. Cochineal-red (*i.e.*, the powdered insect) when in solution is changed by acids to yellowish red or yellow; by alkalies to violet red, and is precipitated by many chemicals in beautiful red lakes. It is bleached by sulphurous acid, but the colour is restored again on exposure to the air. Pure carmin-red is completely soluble in ammonia, and may be completely precipitated from this solution as a dark-red precipitate by addition of alum.

Fernambuco wood takes its name from the state of Fernambuco in Brazil, where it is found. It is frequently called Brazil wood. The colouring matter contained in it is soluble in cold water, producing a red-coloured liquid. This solution is changed to yellow by acids, and dark violet by alkalies. Lime-water produces a carmin-red, alum a scarlet-red, and glue a red precipitate. Sulphuretted hydrogen decolourises the solution.

It is worthy of note that the investigation of the dyewoods is difficult, because with different re-agents they yield very different colours and precipitates, which, in many cases, are very similar, and their investigation requires careful manipulation.

YELLOW DYES.

Sandalwood (*Pterocarpus santalinus*) possesses either a yellow or red colour. The powder is sparingly soluble in water, but it is readily taken up by alcohol, acids and alkalies forming red or violet solutions. The alkaline solution is precipitated by sulphuric acid; the alcoholic solution is decolourised by chlorine, and by the addition of glue (size) and diluting a yellow deposit resembling ocker is thrown down.

Yellow-wood (*morus tinctoria*) yields a yellow powder when ground, the extract from which is coloured a dirty orange colour by adding alkalies. Acids and alum yield a yellow precipitate. Chlorine added in small quantity bleaches feebly, but in a large excess the colour is completely destroyed. In combination with salts of iron, indigo, &c., yellow-wood is extensively used for the production of green and black colours.

Quercitron is the bark of the *quercus tinctoria*. It is a yellow powder, the aqueous extract of which is darkened on the addition of alkalies; whilst lime throws down the colour as a rusty-red precipitate. Paper which has been coloured with quercitron is changed to reddish-orange by nitric acid.

GREEN DYES.

These can, for example, be produced by a mixture of chrome yellow and Prussian blue. Such a mixture is changed to yellow by alkalies, which destroys or decolourises the blue. On the other hand, hydrochloric acid destroys the chrome yellow and, therefore, turns the mixture blue.

BLUE DYE STUFFS.

Berlin or Paris blue, $Fe_7C_{18}N_{18}$, is an organic compound which contains iron, and on heating over an open flame leaves behind a reddish-brown residue of ferric oxide Fe_2O_3. It is not changed by acids, but caustic soda decolourises it with formation of a brown precipitate of hydrated ferric oxide $Fe_2(OH)_6$. If we add to this decolourised solution an acid and a little perchloride of iron, the original blue colour is reproduced.

Indigo is prepared from the anil plant and other species of *Indigofera*, as well as from the European *isatis tinctoria*. This beautiful blue dye is immediately decolourised on the addition of chlorine water or nitric acid. The solution retains only a slight yellowish tinge.

Campechey-wood or Logwood (*Haematoxylum Campechianum*).—The extract of this wood is changed to yellow by dilute acids, and to red by concentrated acids. Sulphurous acid colours it yellow, whilst alkalies change it to reddish violet. Sulphuretted hydrogen decolourises it; lime produces a blue, and glue (size) a red precipitate. Different metallic salts yield different-coloured precipitates with logwood solutions.

Parliamentary Jottings.

HOURS OF LABOUR IN CHEMICAL WORKS.

IN the House of Commons last week Mr. John Burns a Home Secretary whether considering that the Chemica Committee of Inquiry, in their recent report, recommended ei shifts in the alkali and dangerous trades, he would, failing its voluntarily by the firms engaged, take steps to legally reduction of hours from twelve to eight.

The Home Secretary: I earnestly hope that this importa mendation will be voluntarily acted on by the firms engage trade who have not already spontaneously adopted the system hours' shifts. It is my intention next session to propose l to give to the Secretary of State power to deal with unr long hours of labour in dangerous trades.

THE PRICE OF GAS.

In answer to Mr. J. Rowlands, Mr. Mundella said he received any scheme from the South Metropolitan Gas Co the cheapening of the price of gas, and until it was before hi unable to say what action it would be his duty to take in ref it. Should he receive it, he would confer with his hon. frien

THE TREATMENT OF SEWAGE.

Recently, on the motion of Mr. Tomlinson, a return wa showing the number of urban sanitary districts and contribut in rural sanitary districts in England and Wales in which sy treating sewage by precipitation are in operation, and wheth cases the precipitate is of a saleable value.

THE CHEAPNESS OF PETROLEUM

NEVER in the history of the trade were prices for petrole low as they are now, and it would seem as if the utmos the sliding scale downwards had at last been reached. Prese tions for Russian and American refined on the spot vary c 3¼d. and 3¾d. per gallon, and are a mere tithe of the rates ruling years ago. The farther back we trace the prices of t the greater difference do we find in their value from what present, and one cannot help coming to the conclusion that terms exacted in former rather remote seasons were extravaga or those submitted to of late have been absurdly below the m profits cease and losses begin. No doubt this abnormal, might say almost unnatural, cheapness of the article is the o excessive and uncompromising competition that has been goi tween the American and Russian mineral oil producers Muscovite description was introduced to the English mark allowed to go on unchecked it must inevitably lead to ruinous con to one great company or another. Already the prices of th kinds of burning oil are little, if at all, above prime cost; less the unreasonable depreciation is soon arrested, there wil to nothing left for sharing among those whose capital, skill telligence are instrumental in bringing the necessary and usef from the oil wells in Baku and Pennsylvania. There must thing very extraordinary, and quite outside the scope of observation, for oil to be so severely depreciated in value as it having been quoted at only 3½d. per gallon, after being to 9d. in 1885; 1s. in 1881; 2s. in 1876; and fetching as 3s. to 3s. 6d. in 1865 and 1866; but at the same time it remembered that in the years just named the grand enterpri petroleum industry was then merely in its infancy. Extrem case seldom augur well, and are to be avoided, no less in c affairs than in others; and now petroleum oil is cheaper th have been believed ten years ago, or before Russian importe the field as competitors in the world's race for a monopoly of it would not be surprising if matters were to take a turn, and see advancing instead of declining rates. Violent changes are always to be deprecated, as they destroy confidence and business; and consumers who are dependent on a free and u flow of consignments hitherwards for the supply of their dai have the least reason to lay themselves out for a materia in value to be suddenly sprung upon them. Yet such a cont quite within the bounds of probability, and should circumsta to render the production anywhere unremunerative, or bring partial stoppage or failure, a very strong rebound in quotatio instantly ensue. We do not, says the *Oil Trade Review*, p such event, but still, if it happened, the trade should be care be caught unawares without stock, and therefore we t petroleum oil at existing rates would prove a rather profitab ment than otherwise.

LIVERPOOL POPULAR CHEMISTRY LECTURES.

THE first lecture of the second part of the course of penny lectures to working-men, will be given by Dr. T. Lewis Bailey, at the University College, on Monday next at 7-30 p.m. The course will comprise the following ten lectures :—1. Combustion and flame. Furnaces. 2 Fuels ; solid, liquid, and gaseous. 3. Sulphur or brimstone. 4 Vitriols and oil of vitriol 5. Saltpetre. 6. Soda. 7. Bleaching powder. 8. Lime and cements. 9. Phosphorus and matches 10. Water in its application to industrial purposes.

Working-men will be admitted to the above course at a charge of tenpence for the course, or twopence for a single lecture, on producing a form of application signed by himself and by his employer, certifying that he is an apprentice or workman in regular employment, and in receipt of weekly wages.

Blank forms of application can be obtained at the Chemical Laboratories, Brownlow-street, at the Registrar's Office, Brownlow Hill, from Mr. J. Fox, Secretary to the Working Men's Committee, 81, Selbourne-street, and at many of the works.

Working-men in Widnes and other places at a distance can apply to the County Councils of their respective districts for assistance in paying their railway fares.

INDIGO, TALLOW, AND NITRATE IN 1893.

Indigo —The year has shown but little variation in values; the price of Bengal indigo is now about 3d. per lb. higher than it was at the first auction held in January. The total amount sent to Great Britain from Calcutta was given at the end of the season as 2,926 chests, but as 4,346 were received into the dock warehouses it is assumed that the difference was made up by the indigo received here for trans-shipment to the Continent, which took place later on in the year. The steady values held throughout the year must be chiefly attributable to the planters never pressing their consignments, and only realising when there was a fair demand. Singularly enough, the Calcutta sales, which opened in November and continued to date, have a scale of values 6d. per lb. below those ruling here. The shipments from Madras were heavy, making a total of 10,988 chests, and from Bombay and Manilla were received as much as 4,835 chests ; this large accession of common qualities seriously augmented our stocks, and we leave off with a total of 7,420 chests, or 1,494 more than at the corresponding period a year ago. The quantity of Bengal indigo in the warehouses now is the smallest on record.

Tallow.—The market has been active during the greater part of the year. Although the shipments from the Australasian colonies have exceeded those of any previous year, prices have taken a higher range than for several years past, chiefly owing to the exceptional scarcity of home tallow. At the beginning of the year fine mutton tallow was 28s. 6d., beef tallow 27s.; prices rapidly advanced with a strong demand until 42s. 3d and 34s. 6d. respectively were paid on February 24 ; then the demand suddenly fell off, and by the end of April fine mutton had fallen to 30s. and beef to 28s. The fine weather during the summer months made the soapmakers busy, and at one time an advance in prices of colonial tallow during the autumn seemed almost inevitable, but partly owing to consumers having prepared for an advance by the purchase of parcels afloat and for forward shipment, partly also in consequence of the coal strike checking trade generally, no important advance took place, and prices have continued without material change to the close of the year. At the present time the stock here in warehouse is not large, but about 4,000 casks are being landed, and there are some 30,000 casks afloat from the colonies.

Sodium Nitrate.—In the last six months of the year which has just come to a close, the nitrate market has shown a very different aspect from that of the first six months. There was a very moderate supply of nitrate available at the time of the chief demand in spring. This was owing to small shipments in the closing months of 1892, and the consequence was a period of very stiff prices for ready nitrate. The price of due cargoes, which was about 9s. per cwt. at the beginning of January, was forced up, until in the month of April as much as 10s. 6d. was paid for port of call, while at the same time under 8s. 6d. was accepted for April sailing. With free arrivals and the easing off of the agricultural demand, the market dropped in the month of June to 8s 4½d. to 8s. 6d. for cargoes at port of call. This did not, however, last long, and by the end of the same month prices had recovered by about 6d. per cwt. for said position. The second half of the year has, on the whole, been a period of very steady prices, the fluctuations in due cargoes not exceeding 6d. per cwt., while during the said last six months of the year the values of September-November sailings have run about from 9s. 1½d. to 9s. 4½d. per cwt. The inquiry for spring arrivals has lately fallen off, owing to the expected heavy shipments by steamers in January-February, the charters so far showing that room has been engaged for 50,000 to 60,000 tons. The closing values are about 9s. for due cargoes, 9s. 1½d. to 9s. 3d. for October-November sailing, 9s. 3d. to 9s. 1½d. for December, and January nominally 9s., buyers preferring to wait to see what effect the steamer shipments may have on the latter. We estimate the quantity afloat for Europe at the end of 1893 (taking December as 50,000 tons) to be 347,000 tons, against 221,000 tons same time in 1892 The quantity loading on January 1st is cabled as estimated to be 32,000 tons, against 46,000 tons same date last year. The present visible supply for Europe is 451,600 tons, against 427,700 tons at the beginning of last year. The consumption during first six months of 1893 was 529,800 tons against 592,000 tons in 1892. Shipments from West Coast from January 1st to end of November to all parts were 875,000 tons, and estimating those for December as not exceeding 55,000 tons, we make the total for the year to be 930,000 tons (to America 109,000 tons), against 787,000 tons in 1892 (85,000 tons to America).

TESTS FOR COCOANUT AND PALM OIL.

THE following scheme to detect the adulteration of these oils with others may be used :—

First operation.—20 c.c. of the sample are shaken for one minute in a graduated tube with 40 c.c. of alcohol of 90°, when the oil, deprived of its free fatty acids, sinks to the bottom. Alcohol of 85° then absorbs a certain quantity of neutral fatty matters, and the oil dissolves 15 to 20 per cent. of alcohol. The solvent power of the oil diminishes sensibly in the presence of insoluble oils, whilst that of the alcohol increases in the presence of oils, soluble in alcohol of 95°, castor oil, resin oil, &c., which latter can be readily characterised by their physical and chemical properties.

Second operation.—5 c.c. of cocoanut oil, previously washed with alcohol of 95°, are treated in a graduated tube with 10 c.c. of absolute alcohol, and the mixture placed on the water bath at 30° to 31° C. ; it is now shaken for 40 seconds and replaced on the waterbath. Pure cocoanut oil dissolves completely under these conditions, whilst contaminated with oils insoluble in alcohol, such as earth nut, sesame, cottonseed, and maize oils, it does not sensibly dissolve, but falls to the bottom of the tube. Cocoanut oil containing 20 per cent. of palm oil separates, but when the percentage is below this a turbid emulsion results. Palm oil is treated in the same manner, only with 20 c.c. instead of 10 c.c of absolute alcohol. Five c.c. of palm oil containing 20 per cent and upwards of cocoanut oil is soluble in 15 c.c. of absolute alcohol, whilst under these circumstances the pure oil forms a turbid emulsion.

The purity of cocoanut and palm oil cakes is determined by extracting the fats and treating them in the manner above described.

The volatile fatty acids in butter fat may be estimated thus :—

Five grams of filtered dry butter fat is placed in a flask of 300 to 350 c.c. capacity, and 2 c.c. of 50 per cent. aqueous soda, and 20 c.c. of glycerol added. The mixture is then carefully boiled over wire gauze, until all the water is expelled, the flask being gently rotated the while; the heating is then continued with a smaller flame ; in 15 min. a clear soap solution is obtained, which after cooling, is mixed with 90 c.c. of water and 50 c.c. of dilute sulphuric acid (50 c.c. of acid per litre), some fragments of pumice added, and the mixture distilled until 110 c.c. has passed over. The author regards the method as quicker and more convenient than the older methods, but the test analysis appears to be far from satisfactory.

Baudouin's test for sesame oil in olive oil is applied as follows :—

0·1 gram of sugar is dissolved in a test tube in 10 c.c. HCl, sp. gr. 1·19. 20 c.c. of the sample of olive oil is then added, the whole thoroughly shaken for a minute, and allowed to settle.

If the oil is pure, the acid and oils retain their original colour, but if sesame oil is present they are both of a decidedly reddish shade.

THEFT OF A DRYSALTER'S SAFE.—On Wednesday, last week, the office of Messrs. Devane, Crowe & Co., manufacturing drysalters, 50, Duke-street, Liverpool, was entered by thieves, and the safe removed in a handcart, which was also stolen from the firm.

SALT IN THE ISLE OF MAN.—At a meeting of the Liverpool Geological Association, held last Monday, Mr. D. Clague, the President, said that interesting mining experiments had been going on for some time past at the Point of Ayre, Isle of Man. Messrs. Crane had been boring for coal. The opinion of the country was dead against them, and they had been told that they would never find coal. In spite, however, of adverse opinion, they had continued to bore deeper and deeper. They had not found coal but a splendid bed of salt, which would repay them for more than their outlay. Mr. Crane, who was well known to them, had promised to send to the meeting specimens of the rock salt, brine, and manufactured salt, but owing to the death of his sister he had been prevented from doing so. A boring of upwards of 600 feet had been reached.

BURNING OIL INSTEAD OF COAL.

AT the Manchester County Court, on Tuesday, a case was heard by the Deputy Judge (Mr. W. Goldthorpe), in which Messrs Royse and Co., sued Messrs. Mark Fletcher for the payment of a claim of £14. for certain quantities of creosote oil delivered to the defendants. The plaintiffs carry on business as chemical merchants in Albert-square, and the defendants are dyers and bleachers at Brindle Heath, Pendleton. Mr. Langdon appeared for the plaintiffs, and Mr. R. Smith for the defendants. In October, during the coal dispute, the defendants obtained from the plaintiffs 50 casks of creosote oil for use as fuel. Subsequently a tank of creosote was ordered, and after that 20,000 gallons. The first tank was found to contain a considerable quantity of water, and on being informed of this the plaintiffs agreed to make the defendants an allowance of £3. 2s. 5d. Soon after the 20,000 gallons were ordered the coal dispute came to an end, and the contract was cancelled by the defendants paying £15. The defendants now refused to pay the plaintiffs' claim, on the ground that the oil in the tank had been bad, and had done a great deal of damage in the defendants' works. They made a counter-claim for £20., though Mr. Titus Fletcher said he did not think £50. would cover the loss they had sustained. The Judge decided in favour of the plaintiffs on the claim and on the counter-claim.

Trade Notes.

SCOTCH COAL SHIPMENTS.—The shipments of coal from Scotland during 1893 reached 7,800,000 tons, an increase of 120,000 tons over 1892, and fully a million tons over 1891.

PERSONAL.—*Mr. Owen*, who has for a long time been connected with the management of the laboratory at the Cyfartha Ironworks, has, we are informed, retired from that position. *Mr. J. F. Lloyd* has been appointed by the Somerset County Council as district analyst, under the New Fertilisers and Feeding Stuffs Act.

SOCIETY OF CHEMICAL INDUSTRY: *Liverpool Section.*—Last Wednesday, at the usual monthly meeting of this section, Mr. H. E. Saniter read a paper on "A Review of some of the Methods in General Use for the Estimation of Manganese in Minerals and Metals." Mr. W. P. Thompson also opened a discussion on the "Proposed Amendments of the Patent Law."

ST. HELENS GAS.—The Manager in his report for the month stated that, during the past month, 24,284,300 cubic feet of gas had been produced, of an average illuminating power equal to 18·94 sperm candles. Dr. Robertson reported that his tests at the Town Hall, on the 21st ultimo, the 1st, 5th, and 11th instant, had shown the average illuminating power of the gas to have been equal to 19·14 sperm candles, and that no sulphuretted hydrogen was present. Dr. Robertson reported on his quarterly test of gas as follows: Carbonic acid, none; sulphur in other forms than sulphuretted hydrogen per 100 cubic feet, 17·18 grains; ammonia per 100 cubic feet, 4 grains.

THE SEWAGE QUESTION AT BURY.—At the last meeting of the Bury Town Council, Alderman Brierley moved that an application be made to the Local Government Board for power to borrow £120,000 to carry out a sewage scheme. This was carried. On the motion of Mr. W. Sykes it was resolved: "That, whilst this Council is, and always has been, fully alive to the importance of dealing in the most efficient manner with the sewage of the borough, it hereby confirms a resolution passed on August 1, 1893, and again places on record that in the opinion of the Council the ground landlord should be called upon to pay a fair share of the enormous cost which will be entailed on the property owners and occupiers."

SLAG BRICKS.—The manufacture of bricks from blast furnace slag has attained considerable dimensions in Germany, the Luhrmann furnaces near Osnabruck alone having turned out 5,100,000 bricks. The manufacture has also been taken up by other ironworks. The granulation of the slag, the first essential portion of the process—which is substantially the same everywhere—is effected by running the slag along a channel together with a stream of water into a reservoir, in which it is collected. The lime to be mixed with it, in proportion of 1 part to 6 of granulated slag, is slaked with sufficient water to yield a moist sludge, and the two ingredients are thoroughly incorporated in a mill, in which the process is conducted in the following way: The mixed slag and lime are conveyed by a spout, to which a shaking movement is communicated, to a pair of rolls, which stop the access of unduly large fragments of slag or foreign bodies to the mixer proper, and mingle the slag and lime still more thoroughly while reducing them somewhat in size. The final mixing is effected by a set of three drums with radial projections fitting into each other with only a slight amount of clearance, so that the ingredients are brought into the most intimate contact. A machine absorbing 2 to 3 h.p. will serve to prepare the *material for 9,000 to 10,000* bricks per shift of 10 hours.

THE DUTY ON NITRATE.—A telegram from Valparaiso s the Chilian Government is about to increase the export duty c nitrate. The revenue of the Government from this source is some £2,000,000. per annum.

FATAL ACCIDENT AT FLEETWOOD.—About 5 o'clock on evening, Ralph Mason, of Fleetwood, was killed by being machinery at the new Fleetwood Alkali Works. Walter C under-manager, saw Mason's accident and went to his assist also got entangled with the pulley, and when released had su compound fracture of the leg and arm. He was removed to F Cottage Hospital, and attended by Drs. Fausset and Robins Carey lodged at Blackpool, but belongs to Liverpool. M Fleetwood man, and leaves a wife and family.

THE POLARITE PROCESS AT MELTON MOWBRAY.—Melt bray has decided, by the unanimous vote of the Local Board, the ferozone and polarite system of sewage purification at the works. A deputation inspected the sewage works at Swi Royton a few weeks ago, and the result obtained by this pro International) was so satisfactory as to induce the Board to Mr. Jeeves, the Board's surveyor, was instructed to prepare t sary plans for the Local Government Board, so as to get through, if possible, before the summer. It is gratifying to districts following the example of the Mersey and Irwell Com promoting means to prevent the pollution of our rivers.

SERIOUS FIRE AT AN OIL WORKS.—Last Saturday the Fir was summoned about half-past four to the premises of the Lo Refining Company, in Garden-lane, Salford. Fearing from t of the works that the fire would be a serious one, Mr. Ben with him two steam engines and three tenders. Not more th or four minutes elapsed between the receipt of the message a station and the arrival of the brigade in Garden-lane. But had spread so rapidly that the whole building, which was on storeys, seemed to be in flames. The brigade worked for s without making much impression, but in about an hour secured a mastery of the fire, and half an hour later it was p extinguished. A good deal of damage was done, roughly esti about £1,000. How the fire began is not known.

NOTICES.

LONDON AGENTS

Booksellers and Newsagents may now obtain supplies
THE CHEMICAL TRADE JOURNAL
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On usual trade terms. Paternoster Row,

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Owing to the inconvenience created by the various ways foreign subscriptions are remitted, we respectfully beg t subscribers that a *Crossed* MONEY ORDER is the most sa method of remitting, both for them and ourselves. In the Money Order, a letter advising us of same should always otherwise, owing to post-office formalities, much delay in tra acknowledging foreign remittances is inevitably entailed in this

Market Reports.

WEST OF SCOTLAND CHEMICALS

GLASGOW, TU

It has not been till the beginning of the present week that on the West of Scotland fully resumed, and, owing to deliveries of burning oil going on, stocks of the oil companies run down to a point rarely before touched. The very sever weather has intensified this, the oil being now largely empl heating agent as well as an illuminant. At present, if makers to spare, a ½d. a gallon more could be got, and this is bein sellers at second-hand. The other paraffins are unchanged.

Salammoniac has been put up 40s. a ton. In the other chemicals there is no change of price, but soda crystals are, if in improved demand for home consumption; and the feeling bleaching powder and caustic soda is to the same side.

Sulphate of ammonia continues inclining to the quiet makers are as yet not taking anything under £13. 7s. 6d. for There is very little doing in forward.

Chief prices current are:—Soda crystals £2. 7s. 6d. nett, Tyne; soda ash £3. 17s. 6d. nett, Tyne; white alkali 48/52° £4. 10s to £5. nett, Tyne; alum in lump £5. nett, Glasgow; caustic soda, white, 74° £10. 10s., 70/72° £9. 5s., 60/62° £8. 5s., and cream 60/62° £8., all nett, Liverpool; bleaching powder £7. 15s.. nett, Tyne; saltcake, 20s.; borax, English refined, £30., and boracic acid, £37. 10s. nett, Glasgow; bicarbonate of soda, 5-cwt casks, £6 10s., and 1 cwt. casks £6. 15s. nett, Liverpool; bichromate of potash, 4½d. nett, for Scotch and English deliveries (for export, 4¼d. nett, f.o.b. Glasgow); bichromate of soda, 3¾d. nett, for Scotch and English deliveries (for export, 3½d. nett, f.o.b. Glasgow); chlorate of potash, 8d. less 5%, Liverpool; nitrate of soda, 9s. 3d; sulphate of ammonia, £13. 7s. 6d. to £13. 10s. od. prompt, f.o.b. Leith; salammoniac, first and second white, £39. and £37. nett, any port; sulphate of copper, £15. 15s. less 5% Liverpool; paraffin scale, hard 1⅞d., and soft 1⅞d. to 2d. per lb.; paraffin wax 120° semi-refined 2⅜d.; paraffin spirit (naphtha) 4½d. per gallon; paraffin oil, burning, standard No. 1 grade, 5d to 5½d., at works, for Scotch buyers (English sales, ½d. to ¾d. lower), ditto (lubricating) 865° £4. 7s. 6d. to £4. 10s., 885° £4. to £5 10s, and 890/895° £5. to £6. Week's imports of raw sugar at Greenock were 6,500 bags.

TYNE CHEMICAL REPORT.

TUESDAY.

Chemicals in rather better demand. Soda crystals, £2. 7s. 6d. per ton. Caustic soda £10. 15s. and £11 for highest strength. Bleach varies from £7. 10s. to £7. 15s per ton. Sulphur quiet at £4. 2s. 6d. to £4. 5s. per ton net. Other prices as under:

Bleaching powder, softs, £7. 10s. per ton, nett; hards, £7. 15s per ton, nett; caustic soda, 76/77%, £10. 15s. per ton, nett; 70%, £9. 5s. per ton, nett; recovered sulphur, 2 cwt. bags, £4. 5s. per ton, nett; soda ash, 48%, £3. 15s per ton; 52%, £4. 2s. 6d. per ton; 56%, £4. 10s. per ton, nett; alkali, 36%, £3. per ton, nett; white alkali, 48%, £4. 10s per ton; 50%, £4. 15s. per ton; 52%, £5. per ton, nett; hyposulphite of soda, in 5-7 cwt. casks, £5. per ton; ditto, in 1 cwt. kegs, £5. 10s. per ton, nett; silicate of soda, 75° Tw., £2. 15s. per ton, nett; 100° Tw., £3. per ton, nett; 140° Tw., £3. 17s. 6d. per ton, nett; soda crystals, in casks, £2. 7s. 6d. per ton gross weight; in 2 cwt. bags, £2. 7s. 6d. per ton nett weight; chlorate of potash, 8½d. per lb. less 6%; pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £4. 2s. 6d. per ton, nett; blanc fixe, £7. 10s. per ton, nett; chloride of barium, £7. 10s. per ton, nett; carbonate of alumina, £28. 15s. per ton, nett; aluminate of soda, £33. 15s. per ton, nett; in 5 ton lots, £28. 10s. per ton, nett.

South Durham.—Salt unaltered, 9s 6d. per ton net. f.o.b. Tees.

Coals.—Trade is generally steady, with fair business doing Best Northumbrian steam, 12s. 6d. per ton; small steam, 4s. 3d. and 4s. 6d. per ton; best Durham gas coal, 9s. to 11s per ton; bunker coals lower, 9s. 3d. per ton; do., best Durham screened, 12s. 6d. to 13s. per ton. Coke quiet, at 15s. 6d. to 16s. per ton.

MISCELLANEOUS CHEMICAL MARKET.

There is generally in the alkali trade a brisk demand for all products for near deliveries, and in consequence of the low values of all classes of alkali, a considerable amount of business has now been arranged on contracts over the year. Caustic soda is selling freely both for home and export trade, and current prices may be stated as follows, subject to variation for particular markets:—f.o.b. Tyne, 77%, £11. per ton; f.o.b. Liverpool, 74%, £10. 5s.; 70%, £9. 5s.; 60%, £8. 5s.; cream, 60%, £8. per ton, 10-ton lots and upwards. For alkali, 58%, there is good inquiry, and price firm at £3 12s. 6d., bags, f.o.r. makers' works, and £4., casks, f.o.b. Bicarbonate of soda steady at £6. 7s. 6d. to £6. 12s. 6d., f.o.b. Soda crystals unchanged. Bleaching powder is in good request, and makers' are well sold both for early and forward deliveries—spot price £7. 15s. per ton, f.o.r. makers' works, contracts over the year £7. 5s., hardwood casks, f.o.b., £8. per ton to £8. 5s. For vitriol and muriatic acids there is a good average demand. Recovered sulphur quiet at £4. 2s 6d. per ton, f.o.r makers' works Acetates of lime are steady in price: brown £6. 17. 6d., and grey at £10. 15s. per ton. Acetate of soda, acetate of lead, and other acetates re stationary in price, with a fair demand. Chlorate of soda and potash quiet: makers quote 8d. and 8¼d. respectively, but there are sellers of the latter at 7¾d. Nitrate of soda strong, and stocks being light, sellers are holding for £9. 7s. 6d. to £9. 15s. per ton, according to quality. Sulphate of copper has more inquiry, but is without change in price. White powdered arsenic continues to hold a strong position, and moves readily at £13. 10s. nett, at Garston. Carbolic acids are rather firmer, and higher prices are quoted. Sulphocyanides are in better request, prices are: ammonium 7½d., barium 5d. per lb.

TAR AND AMMONIA PRODUCTS.

Benzol continues quiet, without any alteration in price either for 50's or 50/90's. Crude naphtha and creosote both remain in *statu quo ante*. Solvent naphtha, 90's, is slightly easier, prices ranging from 1s. 3½d to 1s. 4d. Pitch continues very firm at last week's quotations, whilst anthracene presents nothing fresh. Crude carbolic keeps firm at 1s. 7d, for 60%.

Sulphate of Ammonia continues rather quiet, but the tendency of the market is decidedly towards an advance, there being comparatively little offering; while with the warmer weather an improvement in the demand seems likely. London quotations show signs of the depression which operators have been endeavouring to induce, but actual values may be taken as Beckton £13. 10s., London £13. 7s. 6d., Hull, £13. 7s. 6d, Liverpool, £13. 7s 6d. to £13. 10s., the same figures applying to Leith. Nitrate of soda is dearer.

REPORT ON MANURE MATERIAL.

There seems to be more doing now that the holidays are over, at somewhat hardening prices. Sellers of Florida phosphate rock, 75/80%, finding a good market for the Baltic and Continent at about 9d per unit, in cargoes cost, freight, and insurance, now requires 8¾d. for good United Kingdom ports. Peace River and South Carolina rocks are offered sparingly, and 7¾ to 7½d. respectively are probably nearest values, 1894 shipment. There is nothing fresh to report in River Plate bones, £4. 17s. 6d. is about the value of anything near at hand, and there are buyers at £4. 12s. 6d. for prompt shipment. Crushed Kurrachee bones on spot in second hands are selling at £5 1s. 3d. per ton, ex quay. For April-May steamer shipment, £4. 16s. 3d. required. £5. paid for Bombay bone meal, December-January steamer shipment, and £5, 2s. 6d. now asked for Dec.-February, none offering on spot. Kurrachee bone meal may be had at about 2s. 6d. per ton less. Nitrate of soda is firmer all round; on spot 9s. 4½d. required for good quality ex quay, ordinary quality shortly due is held for 9s. 3d. in quantity, 9s. 4½d. in retail, ex quay. Due cargoes are now worth quite 9s. 3d. if of moderate size and fair test. There is nothing reported in miscellaneous material.

HULL PAINT, OIL, AND COLOUR REPORT.

TUESDAY.

OILS.—The first week in the shipping trade here will prove most satisfactory in comparison with the same week last year, and should the remaining fifty-one prove equally so, no one will have reason for complaint In the inward tonnage an increase of 20,000 tons is manifest, and more than 4,000 tons in the outward tonnage. Taking the exports of oil all round there was an improvement, the total of linseed oil having been 559 cwts. against 673 cwts. for the same time a year ago, and cotton oil 7,890 cwts. against 5,800 cwts There was an import of tallow 2,238 cwts. against 24 cwts. a year ago, and 177 tuns of olive oil against 141 tuns. Linseed oil has improved about 7s. 6d. per ton, closing quiet at 19s 7½d. naked on the spot. January-April or May-August 19s. 6d., and September-December 18s. 9d. to 19s. Refined cotton oil quiet at 18s. 6d naked spot, at which price there are buyers for January-April. May-Aug. offer at 19s. 6d. Cod oil quoted quoted £17. 10s. to £19. 10s. Herring oil, £16. Sod oil in good demand, £15. to £17. per ton. First pressure castor oil, 2⅝d. per lb. Turpentine, 22s. 6d., barrels free. Pale seal oil from £21. per ton; anti-friction grease from £6. Brown wool grease, £8. per ton. Engine and cylinder oil from 1s. to 2s. per gallon.

CAKES.—Linseed cakes: Rather more demand, with very light seed supplies, and prices are 2s. 6d. to 5s. per ton dearer; 95 per cent. pure, £8. 12s 6d. to £8. 15s; ordinary, £7. 5s to £7. 10s.; Russians, £8. 10s; Polish, £8. 15s Cotton cakes in better demand and dearer; best makes, £5. 2s. 6d. to £5. 5s.; second quality, £5. Rape cakes: East India, £4. 15s.; Black Sea, £4. 5s; oil feeding cakes £5. 5.

PAINTS.—The trade generally is more animated, the demand for export running upon very cheap qualities. There was an increase in painters' colours compared with same time a year ago, being 777 packages against 274 packages, but a decrease in chemicals, the shipments having been 1,539 packages against 2,202 packages. The prices are:—Oxide of iron, from £9. to £18. per ton; oxide of zinc, £22. per ton; venetian red, dry, £6. to £10.; lime blue from 16s.; common black varnish, £5. 10s. per ton in barrels; oak varnish from 5s. 6d. per gallon. Ready-mixed paints, in lever tins, in 1, 2, 4, 7, and 14 lb. tins, from £26. per ton.

THE COPPER MARKET.

Messrs. Harrington and Co., in the fortnightly report, dated December 30th, 1893, state :—

During the past fortnight the market for G.O.B.'s and G M.B.'s has been irregular, about 4,000 tons changing hands at prices varying from £43 3s. 9d cash and £43. 13s. 9d. three months to £42. 15s. and £43. 5s. respectively, closing steady at 2s. 6d. over the lowest. The total stocks in Liverpool, Swansea, London, and Havre are 42,745 tons, against 42,467 tons on the 15th inst., showing an increase of 278 tons for the fortnight. The figures for the previous fortnight showed a decrease of 1,110 tons, thus making a decrease for the month of 832 tons. The stocks include about 2,100 tons of copper sold, but not yet delivered to smelters. The visible supply for the fortnight is 47,273 tons, against 46,729 tons on the 15th December, showing an increase of 544 tons The month's figures show a decrease of 11 tons The stock of English G.M.B.'s in Liverpool remains at 4 tons. Refined and manufactured sorts are dull, quotations being : Tough cake, £45. 15s. to £46. 5s. ; best select, £46. 5s. to £46. 15s. ; Indian sheets, £51. 10s. ; strong sheets, £54. ; and yellow metal sheets, 4⅝d. per lb.

The sales of furnace material comprise:—At Liverpool: 50 tons English precipitate, at 9s ; 264 tons Mexican ore, at 8s 3d. per unit; 63 tons Argentiferous Chili regulus, and 64 tons Argentiferous Peruvian matte, on private terms. At Swansea: Nil.

THE METAL MARKETS.

LONDON, WEDNESDAY.—Pig iron firm : Scotch warrants closed at 43s., Middlesbrough 35s. 4d. cash, and hematite 44s. 11½d. Copper, dull : Chili bars, G.O.B.'s and G.M.B.'s, closed at £42. 7s. 6d. to £42. 10s., cash, and £42. 16s. 3d. to £43 three months. Tin, quiet : Straits closed at £71. 15s. to £72. cash, and £72. 12s. 6d. to £73. 17s. 6d. three months; Australian, £72. 5s. Lead, steady : Spanish, £9. 7s. 6d. to £9. 10s. ; English, £9. 10s. to £9. 12s. 6d. Silesian spelter : ordinary, £16. 7s. 6d. Nickel, 1s. 8½d. Antimony, £37. 10s. Quicksilver : First hands, £6. 5s.; second hands, £6 3s. *Copper shares*, steady : Cape, 1⅜ to 1½. Copiapo, 1$\frac{13}{16}$ to 1$\frac{15}{16}$. Libiola, 3$\frac{3}{16}$ to 3$\frac{5}{16}$. Mason and Barry, 1⅞ to 2. Rio Tinto, 14$\frac{9}{16}$ to 14$\frac{11}{16}$. Tharsis, 4¾ to 5.

WOLVERHAMTON, WEDNESDAY.—At to-day's quarterly meeting marked iron houses redeclared bars £7. 10s., hoops, £8 , boiler plates, £8 10s to £9 , and angles, £8 to £9. 10s. Unmarked iron showed little change. Sheets, singles, £6. 17s 6d. to £7 ; doubles, £7. to £7. 5s. ; merchant bars, £6. 10s. ; common bars and gas strip, £5. 15s. ; hoops, £6. 10s ; Northampton and Derbyshire pigs, 45s. to 46s ; Staffordshire all mines, 57s. 6d. Coal in good demand ; prices strong.

GLASGOW, WEDNESDAY.—Market steady, with small business. Scotch done at 43s. 1½d., and 43s. 1d. cash ; closing with buyers at 45s. cash, sellers ask 1d. more. Cleveland done at 35s 8d. and 35s 7d. one month; closing with buyers at 35s. 4d. cash; sellers ask 35s. 4½d. Cumberland hematite closes with buyers at 44s. 11½d. cash, sellers ask 1d. more. Middlesbrough hematite closes with buyers at 43s. 1½d. cash, sellers ask 43s. 4½d.

LIVERPOOL OIL AND COLOUR MARKET.

WEDNESDAY.

OILS.—Palm oil is steady, with a moderate inquiry. Lagos has sold at £23., and Accra at £22. 5s. per ton transit. In olive there is a steady market at values ranging from £32. to £39. per tun, according to quality. Linseed is stronger, though rather slow of sale. Liverpool makes, however, rule steady to-day at 21s. to 22s. per cwt. in export casks. Cottonseed is in fairly good demand, Liverpool refined being steady at 20s. 9d. to 22s. per cwt. Castor oil is barely so firm, though good seconds Calcutta may still be quoted 2½d. for quay and store. First pressure French continues at 2⅝d. per lb. Tallow keeps scarce, and rates are, in consequence, unaltered. In resin, chief business has been done in the lower grades at rather easier prices. Spirits of turpentine are firm at 23s. per cwt. Petroleum is quiet and unaltered in regard to both position and price.

COLOURS are steady without alteration in prices. Ochres: Oxfordshire, common, £10., medium, £12., best, £15.; Derbyshire, common, 40s.; medium, 50s., best, 60s. ; Welsh, best, 70s., seconds, 50s., and common, 18s.; Irish, Devonshire, 40s. to 45s.; French, J.C., 55s. to 60s.; M.C., 65s. to 67s. 6d. Umber : Turkish quiet ; Devonshire, 50s. to 55s. White lead, red lead, and oxide of zinc unchanged. Venetian red, £6. 10s. to £10. Cobalt : Prepared oxide, 9s. 9d. ; black, 9s.; blue, 6s. Zaffres : No. 1, 3s. 6d. ; No. 2, 2s. 6d. Oxide of iron : Common, £6. ; medium, £10. ; finest, £20. Zinc oxide, £23. to £25.

New Companies.

British Aminol Syndicate, Limited. CAPITAL £ shares of £1 each. This company has been formed to pur patent for improved process of disinfecting, &c. The su the Memorandum of Association are : W. J. Smith, 1 place, London, W.C , accountant ; E. Neyer, Old Kent-ro S.E , correspondent ; A Wolheim, Leadenhall House, L civil engineer ; H. Jarecki, 27, Park-road, Richmond, M. Muller. Lyndhurst, Barmeston-road, London, S.E H. E. Tookey, 38, Trafalgar-road, Greenwich, clerk ; 2, Cresford-road, London, S.W., clerk.

Egert Mill Paint Company, Limited. CAPITAL shares of £1 each. This company has been formed to business of factors and dealers of all kinds of paint, varnish

Huelva Industrial Company, Limited. CAPITAL £ shares of £10 each. This company has been formed to e agreement between Matheson and Co. and others to pur and mines at Huelva, in Spain, and to carry on the busines metallurgists, &c. The subscribers to the Memorandum o are :—J. Matheson McDonald, 3, Lombard-street, Lo merchant ; W. Keswick, 3, Lombard-street, London, E C. R. Moffatt, 53, Parliament-hill-road, London, N.W., H. J. Wenham, 3, Lombard-street, London, E.C., gentle Matheson, 3, Lombard-street, London, E.C , gentleman ; 3, Lombard-street, London, E.C., gentleman ; H B Lombard-street, London, E.C., gentleman.

1894 Tar Products Sales Committee, Limited. £105,000., in shares of £1 each. This company has bee deal in tar products and residual anthracene and to carry ness of warehousemen, brokers, and financiers in connectio The subscribers to the Memorandum of Association Boulton, 64, Cannon-street, London, E.C., merchant ; 64, Cannon-street, London, E.C., clerk ; F. H. Capron, London, E.C., solicitor ; A. Trinder, 47, Cornhill, L solicitor ; W. Wilcocks, Croydon, solicitor ; E. Cairns, 2 park, London, S.E., clerk ; F. C. Goodchild, 15, C Croydon, clerk.

The Patent List.

This list is compiled from Official sources in the Technical Laboratory, under the immediate sup George E. Davis and Alfred R. Davis, who report upon the value of Chemical Patents.

APPLICATIONS FOR ENGLISH LETTERS P

Improvements in obtaining Cyanides and Ammonia Dir Air, or other Gases Containing Nitrogen. J. Young. 24,
New Colouring Matters. C. Dreyfus. 24,870. December 27.
Improvements in Burning Oil under Steam Boilers, etc. C Stewart, and J. Farmer. 24,877. December 27.
Improvements in the Elimination of the Oxides of Zin Copper from Cobalt-Oxide and Apparatus Therefor. R. Carrick and J. G. Johanson. 24 900. December 27.
Disinfectant Soaps. L. Hatschek. 24,956. December 28.
Improved Soap. H. W. Taylor. 25,001. December 29.
Improvements in Furnaces. A. McInnes. 25,019. December
Improvements in the Manufacture of Bleaching Powder. V. C. Driffield, A Carey, and F. W. Wright. 25.023. Decemb
Improvements in the Manufacture of Chlorine. H. Gaskel Carey. 25 024. December 29.
Improved Burners for Mineral Oils. J. A. Vagner. 25,028.
Composition for the Treatment of Sewage and Foul Wa Sharp and J. B. Petrie. 25,040. December 30.
Manufacture of Cement. A. J. Boult. 25,070. December 30.

Gazette Notices.

PARTNERSHIPS DISSOLVED.

E. L. COCKRELL and J. L SLACK, oil merchants and refiners, Medlock, Manchester, under the style of C. A. Remington and C

BANKRUPTCY ACTS, 1883 and 1890.

Receiving Order.

INGLIS, HERBERT CHARLES, otherwise known as Chambers, Th Manchester, drysalter.

Adjudication.

HUGHES, ALFRED, Brentwood, oil and colourman.

IMPORTS OF CHEMICAL PRODUCTS
AT
THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.
Week ending December 30th.

Acetic Acid –
Germany, 1 pkge. Domeier & Co.
Albumen –
France, £140 W. M. Smith & Sons
Alizarine—
E. Indies, 163 pkgs. P. & O. Co
Alkali—
France, 100 c Arnati & Harrison
Ammonium Chloride—
Holland, 10 pkgs. J. Owen
Antimony—
France, 50 t. Novelli & Co.
A. Turkey, 50 French & Smith
Pt. Chalmers, 12 James & Shakespeare
Townsville, 5½ H. Bath & Son
Asbestos—
U. States, £290 Bell's Asbestos Co.
" 17 L. & I. D. Jt Co.
Barium Chloride—
Germany, 10 pkgs Petri Brs.
Barytes—
Holland, 24 cks. J. Owen
Germany, 29 H Lambert
Belgium, 40 J. L. Lyon & Co.
" 69 O'Hara & Hoar
" 22 W. Harrison & Co.
Bleaching Soda—
Germany, 100 pkgs. H. Lambert
Camphor—
Japan, 187 pkgs. R. Warner & Co. Ltd.
Hong Kong, 326 "
Caoutchouc—
Zanzibar, 2 c. Anderson, Weber, & Smith
" 18 Clarke & Smith
" 7 Kleinwort, Sons, & Co.
Madagascar, 75 Hammond & Co.
France, 50 H. Johnson & Sons
" 60 Stiebel Bros.
Cape, 31 L. & I. D. Jt. Co.
Germany, 1 "
Madagascar, 8 Brookes & Green
Castor Oil—
France, 23 brls. J. Greig
" 4 cs. W. G. Frith & Co.
Chemicals (*otherwise undescribed*)
Germany, 5 pkgs. Phillipps & Graves
" £18 Hernu, Peron, & Co.
" 43 pkgs. T. H. Lee
" 14 260 A. & M Zimmermann
France, 5 "
" 31 J. Barber & Co.
Cream of Tartar—
Spain, 8 pkgs. W.C Bacon & Co.
" 10 J Knill & Co.
Holland, 103 Middleton & Co.
France, 13 B & F. Wf. Co., Ltd.
" 20 W. C. Bacon & Co.
" 10 C. Christopherson & Co.
Dextrine—
Germany, 84 pkgs. Hernu, Peron, & Co,
Dyestuffs—
Aniline
Holland, 7 pkgs. J. Owen
" 1 Krayer, Back & Co.
Cochineal
Germany, 3 pkgs. H. Lambert
Canaries, 2 Kuhner, Henderson, & Co.
" 12 Marshall & French
Extracts
France, 100 pkgs. B. & F. Wf. Co., Ltd.
U. States, 15 W. Burton & Sons
France, 170 L J. Levinstein & Sons
Belgium, 50 "
Austria, 310 A. J. Humphrey
Germany, 1 F. Stahlschmidt & Co.
Gambier
Singapore, 219 pkgs. R. & J. Henderson
Indigo
E. Indies, 107 chts L. & I. D. Jt. Co.
" 10 J Owen
" 27 Forbes, Forbes, & Co.
" 28 T. Barlow & Bro.
" 13 Eales & Rutherford
" 10 Croysdale & Co.
" 9 P. Macfadyen & Co.
" 116 Parry & Co.
" 3 Arbuthnot, Latham & Co.
" 13 F. Huth & Co.
" 14 E. Bower & Co.
" 13 J. Kenyon & Sons
" 14 Parsons & Keith
" 18 Ralli Brs.
" 52 Elkan & Co.
" 11 Wrightson & Son
" 12 H. J. Perlbach & Co
" 20 Ross & Deering
" 82 R. Von Glehn & Sons
Logwood
Belize. 320 t. A. Hagan
Orchella
E. Indies, 14 pkgs. Hoare, Wilson, & Co.
Portugal, 45 Prop. Bull Wf.
Ceylon, 1 L. & I. D. Jt. Co.
Saffron
Spain, 1 cs R. Quincey & Son
" 1 pkge. H R. Boyer
Shumac
Italy, 42 pkgs. H. Lorenz
Tanner's Bark
Natal, 13 t. A. & W. Nesbitt
" 46 Boutcher, Mortimore, & Co.
Belgium, 28 Leach & Co
Turmeric
E. Indies, 500 pkgs. C. Wimble
Valonia
A. Turkey, 31 t. A. & W. Nesbitt
" 202 A. Laming & Co.
" 50 J. Graves
" 34 Anning & Cobb
" 50 Boutcher Mortimore & Co
" 60 Phillipps & Graves
" 50 Hicks, Nash & Co.
Erenkein, 78 Schloesser Brs.
Dyestuffs (*otherwise undescribed*)
Melbourne, 41 pkgs. Tozer, Hewitt, & Co.
Farina—
Germany, 300 pkgs. Seaward Brs
Glucose—
U States, 200 pkgs 800 c. L. Norman & Co, Ltd.
" 500 500 Humphrey & Co
" 1,496 1,497 R. G. Hall & Co.
" 100 600 L. Sutro & Co. Ltd.
" 3,500 3,500 Fellows, Morton, & Co.
" 50 281 J. Keiller & Sons, Ltd
" 70 423 Windmuller & Co
" 50 275 C. Southwell & Co.
" 350 350 W. Balchin
" 350 2,100 Page, Son & East
" 220 1,260 T. M. Duche & Sons
" 50 282 Pillow, Jones, & Co
" 800 800 Barrett, Tagant, & Co.
" 100 550 Beck & Pollitzer
Germany, 5 42 J. Knill & Co.
" 200 200 J. Barber & Co.
Lead Acetate—
Germany 33 pkgs. F. Boehm
Magnesium—
Germany 1 pkge. D. W. Greenhough & Son
Manganese—
Holland, 7½ t. Soundy & Sons
Manure—
Germany, 100 t. F. W. Berk & Co, Ltd.
" 200 P. W. Hore & Co.
Ochre—
Holland, 20 pkgs. Phillipps & Graves
France, 42 cks. D. Storer & Sons
U. States, 32 brls. W. Isted
Paraffin Wax—
U. States, 78 brls. H. Hill & Sons
Phosphate Rock—
Holland, 150 t. C. J. Capes & Co.
" 240 Lawes Manure Co.
Aruba, 452 "
Pitch—
Belgium, 7 cks. Poth, Hille, & Co.
S. Russia, 682 brls. C. S. Lovell
Plumbago—
Germany, 3 cks. 41 cs. T. H. Lee
" 163 cs Prop. Scott's Wf.
" 2 cks Acton & Borman
" 32 H. J. Enthoven & Sons
U States, 12 L. & I. D. Jt. Co.
Potash –
France, 105 c. Petri Brs.
Potassium Bromide—
U. States, 30 pkgs. S. Lambert & Co.
Potassium Carbonate—
Germany, 4 cks. F. Boehm
Potassium Chlorate—
Germany, 10 pkgs. Van Oppen & Co.
Potassium Chloride—
France, 20 pkgs. Carey & Sons
Potassium Oxymuriate—
Belgium, 100 pkgs. G. Boor & Co.
Potassium Permanganate—
Germany, 15 pkgs. Spies Brs. & Co
Potassium Prussiate—
Belgium, 4 pkgs. Magee, Taylor & Co.
Pyrites—
Spain, 1,100 t Société Commerciale
Rosin—
Germany, 6 brls. H. Lambert
" 500 Prod. Brokers Co.
Saltpetre—
Germany, 51 cks. J. Hall & Son
" 4 Petri Brs.
" 18 P. Hecker & Co.
E. Indies, 2,594 bgs. Co-op. Ligtrge. Association
Silica—
Belgium, 22 bgs. W. Harrison & Co.
Starch—
Holland, 260 pkgs C. J. Capes & Co
" 40 Phillipps & Graves
France, 400 Prop. Scott's Wf.
" 20 Prop. Chmbln.'s Wf.
Stearine—
Belgium, 25 bgs. C S. Lovell
France, 75 H. Hill & Sons
" 100 Walbaum & Tosetti
Sulphur—
Italy, 600 t W. C Bacon & Co.
" 300 Brandram Brs. & Co.
Tartaric Acid—
Holland, 12 pkgs. Middleton & Co.
" 12 B. & F. Wf. Co, Ltd.
Tin Oxide—
Austria, 13 pkgs. M. D. Co.
Turpentine—
U. States, 2,492 brls. Prod. Brokers Co., Ltd.
Ultramarine—
Germany, 3 pkgs. H. Brooks & Co.
" 30 G. Steinhoff, Sons, & Co.
Holland, 5 Haeffner, Hilpert, & Co.
Belgium, 5 brls. Leach & Co.
Varnish—
U. States, 17 pkgs. Beck & Pollitzer
" 7 Magee, Taylor, & Co.
White Lead—
Germany, 80 cks. Steinhoff, Sons, & Co.
Holland, 19 Burrell & Co.
" 4 Wilkinson, Heywood. & Co.
Germany, 50 Petri Brs.
" 95 M. Ashby, Ltd.
Belgium 15 pkgs. R. G. Jones, Price, & Co.
" 9 brls. J L. Lyon & Co.
" 28 cks. Colthurst & Harding
Zinc Oxide—
Germany, 15 cks. Beresford & Co
" 100 brls. M. Ashby, Ltd.

LIVERPOOL.
Week ending December 28th.

Albumen—
Marseilles, 15 cs.
Alumina Sulphate—
Rotterdam, 23 cks.
Antimony—
Antofagasta, 435 bgs.
Antimony Ore—
Antofagasta, 89 bgs. Hainsworth, Watson, & Co.
" 368 A. Gibbs & Co.
Barium Carbonate—
Rotterdam, 89 cks.
Barytes—
Antwerp, 100 bgs.
Rotterdam, 23 cks.
Bone Ash—
Campana, 742 bgs.
Borate of Lime—
Havre, 100 bgs. Cunard S.S.Co., Ltd.
Borax—
Mollendo, 250 bgs. P. Bevin
" 100 sks.
Havre, 200 Cunard S. S. Co., Ltd.
Valparaiso, 220 Brownells & Co.
" 323
Caoutchouc—
Havre, 12 cks. Cunard S. S. Co., Ld
Caustic Potash—
Rouen, 10 cks. R. J. Francis & Co.
Chemicals (*otherwise undescribed*)
Rouen, 42 cks. Co-op. W'sale Society, Ld.
Antwerp, 29 pkgs. 1 cs.
Colours—
Rotterdam, 6 cks. 1 pkge.
Cream of Tartar—
Bordeaux, 1 ck.
Dried Blood—
Campana, 200 bgs.
Dyestuffs—
Argols
Oporto, 46 cks. German Bank
Bordeaux, 9
Cochineal
Las Palmas, 24 bgs. Kolp & Co.
Gr. Canary, 20 G. S. Bruce
Extracts
Ghent, 50 cks.
Bordeaux, 150
Trieste, 739 brls. Oak Extract Co.
Fiume, 500 "
Rouen, 10 cs. Co-op. W'sale Society, Ld.
Fustic
Colon, 5 t. Edwards Bros.
Puerto Plata, 19 E. Chaloner & Co.
Logwood
Jamaica, 173 t. 17 c.
Orchella
Valparaiso, 84 bls. F. Huth & Co.
" 100 S. Cooban
" 34 Frankfurter & Co.
Lisbon, 39 Pinto, Leite & Nephew
" 34 A. Barbosa & Co.
" 75
Farina—
Fiume, 20 brls. Ship Canal Co.
" 102 bgs. C. J. Vander Veen & Brs.
" 330
Glucose—
N. York, 1,000 brls.
Baltimore, 50
Guano—
Pacasmayo, 13 bgs. Peruvian Corporation
Iodine—
Valparaiso, 4 brls. A. Gibbs & Co.
" 16
Manganese—
Los Villoes, 337 t.
Mineral White—
Trieste, 350 bgs. Schroeder & Co.
Nickel Oxide—
Antwerp, 163 brls.
Ochre—
Marseilles, 62 cks.
Rouen, 96 Co-op. W'sale Society, Ld.
Paint—
Boston, 50 cs. Bahr, Behrend & Rcss
Amsterdam, 5 cks.
Paraffin Scale—
Philadelphia, 515 brls.
Phosphate—
Brunswick, Ga., 601 t.
Ghent, 350
Antwerp, 250 bgs.
Pitch—
Amsterdam, 26 cks.

Plumbago—
Genoa, 100 bgs. G. Huntriss & Co.

Potash—
Hamburg, 31 cks.
Rouen, 41 dms. 18 Co-op. W'sale Society, Ld.
Portugal, Me., 5 brls.

Potassium Chloride—
Hamburg, 500 bgs.

Potassium Sulphate—
Rouen, 200 bgs. Co-op. W'sale Society, Ld.

Pyrites—
Huelva, 2,972 t. Matheson & Co.
" 1,978

Quicksilver—
Lagos, 1 cs. Brickley & Co.

Salt—
Alexandria, 3 cs.

Soap—
Marseilles, 30 cs. A. Mantre
Norfolk, Va., 937 brls.
Boston, 4 E Leigh & Son
Bari, 142 cs.

Soapstone—
Genoa, 600 bgs. G. Huntriss & Co.
" 800

Sodium Acetate—
Rouen, 15 cks. Co-op. W'sale Society, Ld.

Starch—
N. York, 356 pkgs. Wright, Crossley & Co.
Amsterdam, 3 cs.
Baltimore, 800 bgs.
Antwerp, 84 cs. J. T. Fletcher & Co.
" 41
Rotterdam, 30

Stearine—
N. York, 25 tcs.
Antwerp, 52 bgs.

Tallow—
N. York, 10 tcs. 20 hds.
Philadelphia, 160

Tartar—
Bordeaux, 18 cks.

Tartaric Acid—
Rotterdam, 8 cks. Sachse & Klemm
" 24

Tin Ashes—
Marseilles, 2 brls.

Tin Oxalate—
Rotterdam, 2 cks.

Tin Perchloride—
Antwerp, 2 cks. J. T. Fletcher & Co.

Turpentine—
Trieste, 13 cs.

Ultramarine—
Hamburg, 6 cs.
Rotterdam, 11 6 cks.

Verdigris—
Marseilles, 5 cks.

White Lead—
Rotterdam. 46 cks.

Zinc Ashes—
Marseilles, 68 brls.

Zinc Sulphate—
St. Nazaire, 55 cks.

Zinc White—
Hamburg, 1 cs.

HULL.

Week ending December 30th.

Acetic Acid—
Rotterdam, 21 blns. G. Lawson & Sons

Acids—
Hamburg, 8 cks. Wilson, Sons, & Co., Ld.
Bari, 53 "
Antwerp, 1 brl.

Alum—
Rotterdam, 238 cks. W. & C. L. Ringrose
" 9 Hutchinson & Son

Aluminium—
New York, 6 bxs. Wilson, Sons, & Co., Ld.
Antwerp, 10 cs. Bailey & Leetham

Ammonia—
New York, 30 dms. Wilson, Sons, & Co., Ld.

Antimony—
Hamburg, 15 cs. Wilson, Sons, & Co., Ld.

Asbestos—
Riga, 200 pks

Barytes—
Rotterdam, 102 bgs. 23 cks. Hutchinson & Son
Riga, 600
Antwerp, 80 21 Bailey & Leetham
Antwerp, 11 H. F. Pudsey

Castor Oil—
Trieste, 5 cs. Wilson, Sons, & Co., Ltd.

Chemicals (*otherwise undescribed*)
Dunkirk, 10 cks. 50 dms. Wilson, Sons, & Co., Ld.
Hamburg, 20 pkgs. "
Bremen, 1 cs. Veltmann & Co.
Flushing, 2 Brasch & Rothenstein

Colours—
Rotterdam, 8 cs. 64 cks. 5 brls. Hutchinson & Son
" 2 9 pks. W. & C. L. Ringrose
Antwerp, 40 pks Wilson, Sons, & Co., Ld.
" 42 2 brls.
Hamburg, 15 Wilson, Sons, & Co., Ld.
" 5 Sissons Bros. & Co.
" 15
Flushing, 19 pks. G. Lawson & Sons
Rotterdam, 3 "
Stettin, 8 Wilson, Sons, & Co., Ltd.
Flushing, 28 Hutchinson & Son
" 1 Brasch & Rothenstein

Cream of Tartar—
Rotterdam, 2 cks. G. Lawson & Sons

Dextrine—
Stettin, 40 bgs.

Dyestuffs—
Madder
Rotterdam, 1 ck. J. Pyefinch & Co.
Shumac
Trieste, 288 bgs. Wilson, Sons, & Co., Ltd.
Palermo, 1,300 "

Farina—
Stettin, 410 bgs. Wilson, Sons, & Co., Ld.
" 50
Harlingen, 1,150
Dunkirk, 30

Flowers of Sulphur—
Trieste, 1 bg. Wilson, Sons, & Co, Ld.

Glucose—
New York, 566 brls.

Lysol—
Hamburg, 1 cs.

Paint—
New York, 35 brls. Anglo American Oil Co.

Phosphate—
Hamburg, qty. Bailey & Leetham

Potash—
Dunkirk, 11 dms Wilson. Sons, & Co., Ltd.
Antwerp, 53 pks. "

Pumice Stone—
Trieste, 10 cs. Wilson, Sons, & Co., Ltd.
Messina, 330 bgs. "

Rosin—
Savannah, 500 brls.

Saltpetre—
Hamburg, 50 bgs. Wilson, Sons, & Co., Ld.
Dunkirk, 70 cks.

Size—
Hamburg, 1 ck. C. M. Lofthouse & Co.

Soap—
Hamburg, 30 kgs. Wilson, Sons, & Co., Ltd.
Bari, 53 cs. "

Soda—
Antwerp, 566 bgs. Wilson, Sons, & Co., Ltd.

Starch—
Rotterdam, 10 cs. Hutchinson & Son
Bremen, 746 cs. Veltmann & Co.

Stearine—
Antwerp, 13 bgs. Wilson, Sons, & Co., Ld.
" 13 M. Needler, Ld.
Hamburg, 6 cs. Wilson, Sons, & Co., Ld.
Flushing, 1 G. Lawson & Sons

Sulphur—
Antwerp, 1 bg. Wilson, Sons, & Co., Ld.
Catania, 282 bgs. "
" 220 100 t. "

Tallow—
New York, 150 tcs. Wilson Sons, & Co., Ltd.

Tar—
Stockholm, 35 brls. Wilson, Sons, & Co., Ltd.

Tartaric Acid—
Rotterdam, 2 cks G. Lawson & Sons

Turpentine—
Savannah. 2,552 brls.

White Lead—
Rotterdam, 57 cks. Tudor & Sons

GLASGOW.

Week ending January 4th.

Acetate of Lime—
New York, 223 bgs.

Arachide Oil—
Rotterdam, 2 cks J. Rankine & Son

Barium Sulphate –
Antwerp, 50 bgs.

Barytes—
Rotterdam, 127 cks. J. Rankine & Son

Caoutchouc—
Hamburg, 137 bgs.

Carbolic Acid—
Hamburg, 3 cks.

Colours—
Hamburg, 1 ck. 11 cs.
Rotterdam, 3 1 J. Rankine & Son
" 26 pkgs.

Dyestuffs—
Alizarine
Rotterdam, 225 pkgs.
Extracts
Antwerp, 2 cks.

Glucose—
New York, 450 brls.

Lead Acetate—
Rotterdam, 32 cks. J. Rankine & Son

Linseed Oil—
New York, 2 brls. 1 cs.

Ochre—
New York, 52 brls.

Oxalic Acid—
Rotterdam, 13 cks. J. Rankine & Son

Paint—
New York, 2 brls.

Painters' Colours—
Antwerp, 6 cs. 2 cks.

Phosphates—
Ghent, 1,500 bgs.

Potassium Cyanide—
Antwerp, 150 cs.

Potassium Sulphate—
Rotterdam, 50 cks. J. Rankine & Son

Pyrites—
Huelva, 1,645 t.

Rosin –
New York, 400 brls.

Soap—
New York, 200 brls.

Tallow—
New York, 60 hhds. 137 tcs.

Tar—
New York, 930 brls.

Varnish—
New York, 4 brls.

White Lead—
Rotterdam, 41 cks. J. Rankine & Son

Zinc Ashes—
Antwerp, 1 ck.

Zinc Oxide—
New York, 100 brls.
Rotterdam, 25 cks. J. Rankine & Son

Zinc Sulphate—
Rotterdam, 5 brls. J. Rankine & Son

TYNE.

Week ending December 30th.

Alum Earth—
Hamburg, 17 cks. Tyne S. S. Co.

Barytes—
Rotterdam, 508 bgs. Tyne S. S. Co.

Castor Oil—
Bergen, 7 cs.

Colours—
Ghent, 4 brls. Tyne S. S. Co.

Saltpetre—
Hamburg, 20 kgs. Tyne S. S Co.

Saltpetre Salt—
Harburg, 300 t. Clephens & Wiencke

Tartaric Acid—
Rotterdam, 4 cks. Tyne S. S. Co.

Ultramarine—
Hamburg, 4 cs. Tyne S. S Co.

Zinc Oxide—
Antwerp, 3 cs. Tyne S. S. Co.

GOOLE.

Week ending December 27th.

Acetic Acid—
Antwerp, 20 cbys.

Alkali—
Hamburg, 13 cs.
Calais, 2 cks.

Barytes—
Antwerp, 12 cks.

Dyestuffs—
Alizarine
Rotterdam, 58 brls. 98 pkgs.
Logwood
Jamaica, 485 t.
Belize, 1,013
Madder
Rotterdam, 1 ck.

Dyestuffs (*otherwise undescribed*)
Boulogne, 19 pkgs. 9 cks. 1 cs.

Farina—
Hamburg, 1,466 bgs.
Delfszyhl, 200

Potash—
Rotterdam, 90 cks.
Calais, 20 dms.
Dunkirk, 11 40

Pyrites—
Huelva, 1,270 t.

Rosin—
Savannah, 6,474 brls.

Saltpetre—
Hamburg, 5 cks.
Rotterdam, 100 bgs.
Antwerp, 85

Size—
Boulogne, 2 pkgs.

Sodium Silicate—
Rotterdam, 3 cks.

Sulphur Ore—
Seville, 1,075 t.

Tannic Acid—
Rotterdam, 20 cks.

Waste Salt—
Hamburg, 527 cks. 1,016 bgs.

GRIMSBY.

Week ending December 30th.

Caoutchouc—
Hamburg, 10 cs.
Rotterdam, 5

Chemicals (*otherwise undescribed*)
Hamburg, 4 cks.

Dyestuffs (*otherwise undescribed*)
Dieppe, 6 cks.

Farina—
Hamburg, 100 bgs.

Size—
Hamburg, 40 bgs.
Antwerp, 15 pkgs.

EXPORTS OF CHEMICAL PRODUCTS

OF

THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending January 3rd.

Acids—

Penang,	20 cs.		£15
Singapore,	39		35
Hong Kong,	31		45
Champerico,		8 dms.	8
Shanghai,	20		29
Hamilton	2 cks.		12

Alkali—

B. Ayres,	4 t.	£14

Alum—

Brisbane,	19 c.	£6

Ammonia (Liquid)—

Rosario,	4 cs.		£6
Cologne,		4 cyldrs.	7
Colombo,	3		10
Barbadoes,	5 c.		8

Ammonium Carbonate—

Adelaide,	15 c.		£29
Bordeaux,		10 cks.	44
Rangoon,	12		27
New York,		12 pkgs.	530
Amsterdam,	4		7
Algoa Bay,	3		7
Libau,	15		25

Ammonium Chloride—

Adelaide,	1 t.	1 c.	£27
Constantinople,	2	10	83
Shanghai,	2		70
Alexandria,		5	9
Singapore,		5	8
Hong Kong,		10	18

Ammonium Sulphate—

Guadeloupe,	49 t.	5 c.	£675
Demerara,	222	13	2 887
Barbadoes,	20		285
Martinique,	10	9	144
Ghent,	61	10	805
Hamburg,	487	7	6,092

Amorphous Phosphorus—

Hong Kong,	1 c.	£13

Arsenic—

Calcutta,	1 t.	1 c	£24
Adelaide.	2		18
Cape Town,		20 dms.	12
Canterbury,	1		16
Otago,	2		31
Napier,	1		26
Amsterdam,	5 cks.		13

Barium Binoxide—

Paris,	15 t.	10 c.	£515

Bisulphite of Lime—

Calcutta,	50 cs.	£43

Boracic Acid—

Melbourne,	6 cks.	£77

Borax—

E. London,	25 cs.			£35
Savanilla,		4 cks.		10
Otago,			10 c.	15
St. John's, N.F.,		1		9
Hamburg,		6		46
Copenhagen	1 t.			60

Carbolic Acid—

Singapore,	1 t.	5 dms.	5 c.	£49
Algoa Bay,		5 cs.		17
Rotterdam,	24 cks.			91
Hamburg,	80			467
Calcutta,			7	39

Carbon Bisulphide—

B. Ayres,	2 t.	5 c.	£45
Melbourne,	173 dms.		67

Caustic Soda—

Rockhampton,		2 c.		£5
Algoa Bay,	5 t.	4		67
Cape Town,	1	4		34
Natal,	4	7		138
Savanilla,	2	19		40
E. London,	3	13		54
Normanton,		5		11
Melbourne,	26	9		255

Chemicals (*otherwise undescribed*)

Malaga,		2 cs.		£16
Melbourne,	3 c.			12
Cape Town,		8	5 pkgs.	41
St. Lucia,	17			15
Algoa Bay,			31	35
Shanghai,		2		125
Durban,	7 cks.	4		29
Lyttelton,	2 kgs.			8
Madras,	5 cs.	10 pkgs		£67
Launceston,	146 drs.			65
B. Ayres,		22		56

Chloride of Lime—

Algoa Bay,	13 c.	37 pkgs.	£50

Citric Acid—

Calcutta,		1 cs.	£9
B. Ayres,	1 t.		158
Havre,		6 c.	48
Hamburg,		10	76
Rotterdam,	2	1 ck.	55
Barcelona,		4	160
Cologne,		5	39
Lisbon,		2 cs. 3	50
Amsterdam,		7 kgs.	56
Libau,	2 t.	19 c.	467

Coal Products—

Alizarine

Bombay,		95 kgs.	£395

Aniline

Calcutta,	1 tk.		£70

Anthracene

Rotterdam,	34 cks.		£190

Benzol

Rotterdam,	20 cks.	35 dms.	£741
Terneuzen,		15	120
Hamburg,		24	290
Calais,	36		291

Pitch

Dunkirk,	1,857 t.		£2,774
Ghent,	1,705		2,437
Mauritius,		25 kgs.	8
Terneuzen,	729		981

Pyridine Bases

Hamburg,	7 cks.		£52

Naphtha

Sydney,	20 dms.		£8

Tar

Natal,	13 runs	140 dms	£26
Algoa Bay,		qty.	6
Trinidad,	10		6
Dunedin,		30	5
Delagoa Bay,		95	17

Tar Oil

Algoa Bay,	9 t.	5 c.	£32

Toluol

Rotterdam,	15 puns.		£150

Copper Sulphate—

Adelaide,	5 t.			£77
Canterbury,	5			76
Bordeaux,	4			64
Seville,	3	4 c.		56
Launceston,	1			26

Cream of Tartar—

Madras,		2 c.		£9
Brisbane,			2 cs.	8
Adelaide,	1	10		105
Melbourne,	2	10		178
Sydney,	7	5		515
Dunedin,		1		75
Hobart,		2		9

Disinfectants—

Jamaica,		20 dms.	£14
Sydney,	20 cks.		39
Canterbury,	35 pkgs.		30
Otago,	52	19 cs.	122
Cape Town,	36		57
Port Darwin,		5	30
Brisbane,	12 dms.	5	22
Melbourne,	2 c.		13

Flowers of Sulphur—

Pt. Elizabeth,	1 t.	2 c.	£13
E. London,	7	16	82
Colombo,	1		10

Guano—

Demerara,	100 t.		£1,000
Barbadoes,	330		3,630

Iodine—

Algoa Bay,	2 cs.	£10

Iodoform—

Algoa Bay,	4 cs.	£12

Manure—

Jersey,	198 t.	11 c.	£1,231
Barbadoes,	15		113
Nevis,	22		198
St. Kitts,	50		450
St. Vincent,		5	8
Guadeloupe,	114	4	720
Surinam,	5		40
Demerara,	74	12	793
Martinique,	95	11	475
Bordeaux,	55		285
Hamburg,	21	16	60
Roscoff,	102 t.		£355
Leghorn,	98	10	273
Charente,	99	13	600
Cape Town,	6		41

Nitric Acid—

Otago,		5 cs.	£8

Oxalic Acid—

Brussels,	1 t.		£30
Libau,	5		142

Phosphate—

Sydney,	100 t.		£245

Phosphoric Acid—

Boston,	34 pkgs.		£120

Phosphorus—

Melbourne,	5 cs.	9 c.		£180

Potash—

Suez,	13 c.		£16

Potash Salts—

Natal,	20 t.	14 c.		£2,380

Potassium Bromide—

Melbourne,	1 c.		£10

Potassium Carbonate—

Adelaide,	12 c.		£9

Potassium Chlorate—

Algoa Bay,	4 kgs.			£7
Odessa,	1 t.			72
New York,	10	16 c.		550

Potassium Cyanide—

Townsville,	5 t.	5 c.		£626
Shanghai,			2 cks.	10
Sydney,	3	10		416
Adelaide,	3	10		418

Potassium Prussiate—

Boston,	54 cks.		£844

Saltcake—

Ghent,	155 t.		£271

Saltpetre—

Adelaide,			10 c.		£11
Vigo,	2 t.	5			50
Otago,		5			6
M. Video,		12			13
Paranagua,	1	4			20
Launceston,		5			6
Limon,	2	10			54
Algoa Bay,		9			10

Sheep Dip—

Adelaide,		50 dms.			£42
Pt. Elizabeth,		500 cs.			7540
Brisbane,		65 dms.			47
Cape Town,	8 t.	15 c.	175 cs.	50 dms.	394
E. London,		325	1,250		713
Natal,	6	5	3,000		845
Algoa Bay,		2	1,956		334
Santa Cruz,	8				14
Melbourne,	8	3			113

Soda—

Aigoa Bay,	1 t.	10 c.	£54

Soda Alkali—

Algoa Bay,		11 c.	£12

Soda Ash—

Melbourne,	25 t.		£117

Soda Crystals—

Trinidad,	1 t.	12 c.		£6
Algoa Bay,	2	8		9
Wellington,	1			6
Cape Town,	1			4

Sodium Bicarbonate

E. London,	1 t.			£7
Napier,		15 c.		6
Algoa Bay,	1	5		11
Tellicherry,	2	1		10

Sodium Carbonate—

Algoa Bay,		15 c.	£13

Sodium Hyposulphite—

Melbourne	1 t.	18 c.	£10

Sodium Sulphate—

Penang,	3 t.		£32
Ghent,	70		105

Sodium Tannate—

Calcutta,	3 t.	9 c.	£50

Sulphur—

Barbadoes,		18 c.	£6

Sulphuric Acid—

Aden,			15 c.		£8
Penang,				30 cs.	24
Cape Town,	4 t.	13	10		26
Natal,				5	8
Singapore,		4			15

Tartaric Acid—

Sydney,	1 t.	15 c.		£185
Canterbury,		5		24
Dunedin,		4		21
Cape Town,			3 cks.	15
Brisbane,		8		37
Rangoon,			2	14
Rosario,	5			462
Libau,		11		49
Odessa,	1	10		145

Tin Crystals—

Barbadoes,	3 t.	£207

LIVERPOOL.

Week ending January 3rd.

Alum—

Sydney,	1 t.	4 c.		£7
Beyrout,	3	10		21
Vigo,	1	5		8
Ancona,	3			18
Syra,	3	10		21
M. Video,		18	3 q.	6
Alexandria,	13			78

Aluminous Cake—

Calcutta,	6 t.	11 c.	3 q.	£20

Ammonia—

M. Video,	10 c.		£22

Ammonium Carbonate—

Hamburg,	2 t			£62
Antwerp,		15 c.		25
Bilbao,		6		10
Lisbon,		10	1 q.	16
Bahia,		2		8

Ammonium Sulphate—

Valencia,	66 t.	12 c.		£892
Ghent,	20			270
G. Canary,	13	10		186
Tonnay Charente,	154 t.	14 c.	4 q.	2,051
Antwerp,	101		1	1,363
Barbadoes,	50	19	3	680
Hamburg.	63	12	1	700

Barium Chlorate—

Antwerp,	4 c.		£18

Bichromate of Potash—

New Orleans,			5 q.	£17
Alexandretta,	1 t.	9 c.	1	56

Bleaching Powder—

Baltimore,	75 cks.		
Puebla,	40 brls.		
Boston,	603		
Calcutta,	125 cs.	50 bxs.	
Ghent,	145		
Gothenburg,	15		
Havre,	44		
New York,	259		
Oporto,	10		
Rotterdam,	6		
Bombay,	5		
Newport, New,	52		
Rouen,	15		
Iquique,	2		

Boracic Acid—

Progresso,		11 c.	1 q.	£21

Borax—

Toronto,	1 t.	10 c.		£43
Antwerp,	6	7		173
,,	5			170
Iquique,		19		29
Bordeaux,	1	3		30

Calcium Chloride—

M. Video,	2 t.	10 c.	£8
New York,	10		25

Carbolic Acid—

Rotterdam,	10 t.			£549
,,	5	11 c.	2 q.	313

Caustic Potash—

Barcelona,	1 t.	8 c.	£35

Caustic Soda—

Savanilla,	50 dms.		
Seville,	730	12 brls.	
Sydney,	20		
Algiers,	100		
Alicante,	35		
Antwerp,	35		
Bahia,	105		
Baltimore,	52	46	
Bari,	186		
Bilbao,	98		
Bombay,	27		
Boston,	450	49	

B. Ayres, 50 dms.
Calcutta, 193
Cuidad Bolivar, 20
Fiume, 218
Hamburg, 100
Kurrachee, 200
Lisbon, 15
Malaga, 25 16 brls.
M. Video, 100
Montreal, 5
N. Orleans, 144
New York, 459 50
Parnahyba, 20
Pasages, 265
Passveroean, 20
Pernambuco, 25
Philadelphia, 50
Rotterdam, 91 7 cks.
San Sebastian, 108
Bremen, 15
Smyrna, 20
Tampico, 60 200 kgs.
Vera Cruz, 100
Sourabaya, 18
Alexandria, 130
Amsterdam, 110
Ancona, 10
Barcelona, 91 11 100
Carthagena, 10
Campano, 10
Corfu, 30
Evansville, 50
Genoa, 26
Messina, 36
Penang, 100
Puebla, 20
Savanilla, 4 cs.
Yokohama, 100

Chemicals (*otherwise undescribed*)
Naples, 4 c. £7
Montreal, 1 t. 10 45
Toronto, 1 35
Mersyne, 10 17

Copperas—
Malta, 273 brls. £90

Copper Sulphate—
Marseilles, 4 t. 19 c. 2 q. £80
Cette, 200 7 3 3,200
Marseilles, 30 1 3 480
Bordeaux, 12 11 1 200
Fremantle, 3 3
Sevilla, 10 1 158
Bahia, 5 3 7
Bari, 20 6 2 305
Trieste, 10 3 1 160
Pernambuco, 3 3 5
Smyrna, 19 1 14
Trieste, 2 1 3 31
Naples, 2 5 1 32
Rouen, 14 6 1 229
Genoa, 1 3 1 17
Bari, 5 1 2 72
Naples, 2 5 2 32
Ancona, 4 10 1 64
E. London, 3 3
Cape Town, 4 3
Algoa Bay, 4 4
B. Ayres, 21 7 1 310
Lisbon, 23 6 2 363
Venice, 5 1 75
Algiers, 5 1 2 80
Constantinople, 10 8
Lisbon, 1 7 3 22
M. Video, 3 15 1 60
Algiers, 12 9 200
Bordeaux, 242 16 3,824
Catania, 15 2 3 216

Cream of Tartar—
St. John's, N'fd., 2 c. £9

Disinfectants—
Rio de Janeiro, 1 cs. £5

Dried Blood—
New York, 50 t. 7 c. 2 q. £19

Dyestuffs (*otherwise undescribed*)
New York, 53 cks.
Boston, 3 kgs.
Hiogo, 7

Gypsum—,
New York, 36 t. 6 c. £134

Iron Oxide—
Fayal, 13 c. 3 q. £14
Lisbon, 14 2 14

Magnesia—
Sydney, 5 cs.
Valparaiso, 1

Magnesium Chloride—
Halifax, 6 t. 9 c. £16
Porto Alegre, 9 15 27

Magnesium Sulphate—
Bahia, 20 brls.
Kurrachee, 40 kgs.

Manure—
Malaga, 30 t. 1 c. £286
New York, 1 2 2 q. 17
Havre, 50 t. 1 c. £144
Genoa, 116 10 4 q 397

Metallic Sodium—
New York, 1 t. 19 c. £448
Rotterdam, 8 1,961

Muriatic Acid—
M. Video, 6 c. 3 q. £4

Oxalic Acid—
Boston, 8 t. 14 c. £261

Paint—
Calcutta, 14 cks. 3 kgs.
Callao, 61
Iquique, 3
Manila. 34
Old Calabar, 10
Para, 12
Piræus, 2
Smyrna, 3
Congo, 24 dms.
Havana, 3
Iloilo, 248
Iquique, 629
Manila, 41 900
Maranham, 6 2 cs.
M. Video, 15
Santiago de Cuba, 3
Tripoli, 2 6
Vera Cruz, 50
Vigo, 4
Maracaibo, 242
New York, 32

Painters' Colours—
B. Ayres, 20 cks.
Calcutta, 6
Para, 50 kgs.
Philadelphia, 3 cs.
Pt. Elizabeth, 7
Port-au-Prince, 200 dms.
Porto Alegre, 40
Rangoon, 14
Bahia, 1 20 brls.
Bathurst, 84
Bombay, 20
Carthagena, N.G., 160 2
Havana, 17
Jaffa, 4 4
Lisbon, 34
Madras, 100
Parnahyba, 3 11
Rotterdam, 189
Savanilla, 7
Alexandria, 45
Antwerp, 20
Barcelona, 12

Paraffin Wax—
Antwerp, 34 cs.
Boston, 25
Smyrna, 12 bgs.
Venice, 8 60

Phosphorus—
Shanghai, 27 cs. 1 c. £280
Hong Kong, 2 1 3 q. 53
Kobe, 16 190
Hiogo, 10 130

Picric Acid—
New York, 1 t. 15 c. £150

Pitch—
Port de Bone, 955 t.
B Ayres, 4 cks.
Cette, 1,474
Rouen, 1

Potassium Bicarbonate—
Corfu, 1 c. £5

Potassium Carbonate—
M. Video, 17 c. 3 q. £30

Potassium Chlorate—
Volo, 1 t. £72
Rotterdam, 4 5 c. 262
Hamburg, 1 56
Copenhagen, 1 56
Kalmar, 2 120
N. York, 7 10 c. 465
Boston, 6 5 360
Yokohama, 2 10 142
Hiogo, 12 10 727
Oporto, 6 22
Hong Kong, 2 10 150
Rotterdam, 13 35
New York, 5 294
Amsterdam, 2 7
Rotterdam, 7 20
Hiogo, 10 580
Hamburg, 1 56
New York, 16 5 960
Boston, 5 328
Genoa, 3 10 212
Oporto, 2 6
Gothenburg, 5 286
Calcutta, 10 30
Guadalagara, 5 18
Vera Cruz, 1 68

Potassium Iodide—
Maranham, 1 brl. £67

Salammoniac—
Alexandretta, 1 t. £35
Beyrout, 1 7 c. 48
Bilbao, 5 10
New York, 9 16 341
Constantinople, 11 2 q. 19
Leghorn, 11 3 19
Amsterdam, 5 9
Calcutta. 3 102
Philadelphia, 19 5 454

Salt—
Antwerp, 305 t.
Boston, 330
Cape Coast, 13 7 c.
Chicago, 80
Copenhagen, 650
Halifax, 10
Matadi, 46¾ 11
New Orleans 1,328
Newport News, 615
Old Calabar, 120½
Portland, 25
Abonnema, 8
Accra, 7 6
Ambriz, 27 11
Antwerp, 154 4
B. Ayres, 4¾
Buguma, 200
Calcutta, 4,204
Chittagong, 2,694
Ghent, 150
Grand Bassam, 32 10
Hamburg, 110 17
Iloilo, 9
Isles de Los, 25
Lavannah, 10 3
Manoh, 20 2
M. Video, 2 3
New York, 918 8
Rangoon, 3,753
Rotterdam, 200
Sierra Leone, 50
Trinidad, 18
Valparaiso, 13 19
Victoria, B C., 326 7
Accra, 16
Algoa Bay, 23 6
Cameroons, 13 8
Cape Coast, 12½
Lagos, 200
Pernambuco, 10
Shanghai, 2 1
Vancouver, 554 19
Vera Cruz, 10
Victoria, W.C A., 21½ t.
Yokohama, 2 t. 2 c.

Salt Cake—
Ghent, 100 t. £119
Baltimore, 140 4 c. 247
Ghent, 205 205

Saltpetre—
Maranham, 1 t. 16 c. 1 q. £45
Savanilla, 5 8
Bilbao, 1 16 2 41
Para, 10 12
Bahia, 3 3 38
Malaga, 17 20
M. Video, 5 3 6

Sheep Dip—
B. Ayres, 28 t. 6 c. £613
Algoa Bay, 1 8 1 q. 25
Punta Arenas, 2 6 1 58

Soda Ash—
Philadelphia, 532 cks. 3,534 bgs. 579 tcs.
Piræus, 15 brls.
Antwerp, 100 bgs.
Baltimore, 287 cks. 5,669 303 tcs.
Bilbao, 18
Boston, 253 2,400 116
B. Ayres, 193 10
Calcutta, 32
Callao, 25
Constantinople, 40 50
Coquimbo, 20
Genoa, 35 25 cks. 200
Leghorn, 71
Maranham, 100 85
Montreal, 600
Naples, 10 10
Newport New, 1,600
N. Orleans, 33
New York, 77 3 964 275
Oporto, 20
Sourabaya, 120 dms.
Syra, 170
Yokohama, 60
Zante, 30
Batavia, 5
E. London, 6
Ghent, 17
M. Video, 100
Pt. Alegre, 75
Zante, 340

Soda Crystals—
Pernambuco, 100 brls.
Antwerp 50 cks.
Belize, 20 brls.
Boston, 140 cks 170
Calcutta, 85 67
Constantinople, 57
Havre, 100
New York, 200 42
Rosario, 100
Zante, 65
B. Ayres, 60
Cape Town, 12
Malta, 50
Philadelphia, 700
Pt Elizabeth, 20

Sodium Bicarbonate—
Oporto, 20 kgs.
Sourabaya, 20
Algoa Bay, 40 20 bgs.
Beyout, 60
Bombay, 165 20
Bordeaux, 30
Brindisi, 100 5
Calcutta, 120 500 9
Constantinople, 50
Copenhagen, 110 6
Hamburg, 15 4 brls.
Kurrachee, 1,288
Lisbon, 15
Melbourne, 100
Merseyne, 10
New York, 15
Rangoon, 30
Rosario, 100
Rotterdam, 20
St. John's, N.B., 400
Smyrna, 40
Valencia, 100
Trieste, 50
Antwerp, 20
Ghent, 50
Malaga, 30
Malta, 10
Odessa, 160
Stettin, 15 1

Sodium Bichromate—
Piræus, 20 cks.
Ghent, 19

Sodium Chlorate—
Boston, 50 kgs.
Hamburg, 4 cks. 1
Rotterdam, 10
Antwerp, 60
Trieste, 20
Vera Cruz, 3

Soap—
Alexandria, 1 cs.
Attaboe, 2
Barbadoes. 400 bxs. 4
Bombay, 1,982 10
Brussels, 800
Calcutta, 20 2 375
Constantinople, 10
Cape Town, 50 6
Dunedin, 500
E. London, 25 30
Gibraltar, 100
Hamburg, 262 2
Las Palmas, 460
Brass, 200
Old Calabar, 2
Pt. Natal, 65
Pt. Elizabeth, 50
Rotterdam, 26
Shanghai, 2 912
Wellington, 500
Accra, 60
Antwerp, 220
Belize, 450
Cameroons, 20
Chama, 24
Cienfuegos, 1
Dixcove, 100
Hong Kong, 400
Iquitos, 200
Lanzarote, 224
Macassar, 1,000
Rangoon, 1,000 4
St. John's, N'fd., 50½
Sapelli, 300
Smyrna, 26
Trinidad, 500
Algoa Bay, 30
Amsterdam, 50 475
Antofagasta, 25
Buguma, 3
Curacao, 620
Madras, 5
M. Video, 1
Rouen, 5
Singapore, 56
Iquique, 255

Sodium Hyposulphite—
Callao, 1 t. 7 c.

Sodium Silicate—
Passages, 50 brls.
Sourabaya, 4

Sulphur—
Victoria, B.C., 10 c. £5
Cardenas 12 5
Toronto, 3 t. 15 2 q. 30
Philadelphia, 110 2 424
Boston, 210 3 811
Iquique, 11 17 2 } 466
" 350 brls. 100 bgs }
Bahia 1 t. 14 c. 1 q. 16
Sulphuric Acid—
New Orleans, 10 c. £10
Superphosphate—
Malaga, 4 1 t. £19
Gd. Canard, 5 22
Venice, 2,001 3,249
Tar—
Philadelphia, 300 brls.
Genoa, 6 cks.
Las Palmas, 5 brls. 8 kgs.
Leghorn, 2 cks.
Tartar Emetic—
New Orleans, 3 c. £7
Mapimi, 1 kg.
Tartaric Acid—
New Orleans, 3 q. £5
New York, 2 c. 12
Tin Perchloride—
New Orleans, 3 q. £9
Varnish—
Manila, 6 cs.
M. Video, 4
Old Calabar, 2 dms.
Pt. Elizabeth, 3
Havana, 1
Iquique, 6 24
Madras, 5
White Lead—
Calcutta, 100 kgs.
Zinc Chloride—
Tuticorin, 10 c. £8
Zinc Oxide—
Hamburg, 12 c. £10

HULL.

Week ending December 30th.

Alkali—
Hango, 8 cks.
Riga, 77
Stettin, 5
Ammonium Sulphate—
Antwerp, 704 bgs.
Dunkirk, 218
Rotterdam, 1,390
Ghent, 1,471
Hamburg, 972
Stettin, 196
Asbestos—
Libau, 10 bls.
Benzol—
Rotterdam, 24 cks.
Bleaching Powder—
Bombay, 30 dms.
Catania, 8 cks.
Danzig, 9
Hango, 217
Boston, 149
New York, 83
Borax—
Antwerp, 10 cks.
Hango, 1
Caustic Soda—
Bombay, 12 dms.
Catania, 35
Danzig, 35
Hango, 134 2 cks.
Helsingfors, 130
Riga, 155
Reval, 151
Chemicals *(otherwise undescribed)*
Amsterdam, 1 ck. 1 cs. 16 pks.
Antwerp, 48 15
Bombay, 686 275 pkgs.
Copenhagen, 15 1 8
Christiania, 35 5 45
Danzig, 3 130 pks.
Gothenburg, 121 25 56
Hamburg, 27 135
Hango, 3
Helsingfors, 36 80
Kurrachee, 100
Libau, 110 43 160
Rotterdam, 146 30 200
Riga, 22 51
Reval, 40 20
Stettin, 61 40
Bergen, 5
Bordeaux, 4
Drontheim, 20 10
Dunkirk, 1 5
Harlingen, 20
Cottonseed Oil—
Antwerp, 1,493 c.
Bremen, 194
Fiume, 104
Flushing, 202
Hamburg, 1,610
Rotterdam, 4 783
Trieste, 100
Christiania, 10
Drontheim, 51
Stettin, 999
Creosote—
Dunkirk, 25 cks.
Dyestuffs *(otherwise undescribed)*
Amsterdam, 3 cks. 2 bls.
Danzig, 21 2 cs.
Hamburg, 11
Riga, 11 1
Flushing, 1
Riga, 2
Gypsum—
Boston, 50 cks.
Linseed Oil—
Antwerp, 21 c.
Bergen, 21
Bombay, 866
Christiania, 420
Christiansand, 86
Fiume, 18
Hamburg, 374
Kurrachee, 197
Rotterdam, 141
Stavanger, 65
Trieste, 10
Drontheim, 70
Manure—
Rotterdam, 55 t.
Mineral White—
Bergen, 50 bls.
Antwerp, 22 cks.
Naphtha—
Dunkirk, 29 cks.
Antwerp, 6
Ochre—
Copenhagen, 3 cks.
Gothenburg, 2
Paint—
Trieste, 2 cks.
Antwerp, 392
Bombay, 560 kgs.
Painters' Colours—
Amsterdam. 11 cks. 3 pks.
Antwerp, 2 cs. 233 22 dms.
Bremen, 1 1
Bombay, 218 2 91 pkgs.
Christiania, 36 2
Dunkirk, 9
Ghent, 26
Hango, 1
Kurrachee, 19 5 216
Libau, 1
Rouen, 31
Rotterdam, 20 53 4
Riga, 6
Stettin, 24
Drontheim, 60
Gothenburg, 1
Hamburg, 54 12 5
Pitch—
Antwerp, 840 t.
Copenhagen, 40
Salt—
Bergen, 1 ck.
Drontheim, 1 cs.
Size—
Bremen, 20 cks.
Flushing, 10
Rotterdam, 2
Soap—
Copenhagen, 50 cs. 123 bls.
Christiania, 1
Drontheim, 20
Tallow—
Amsterdam, 20 cks.
Bombay, 10
Gothenburg, 30
Rotterdam, 24
Tar—
Amsterdam, 12 cks.
Danzig. 6
New York, 1
Rotterdam, 3
Varnish—
Bombay, 1 cs.
Danzig, 2 cks. 2
Gothenburg, 3 1
Ghent, 3 1
Kurrachee, 4
Stettin, 3
Trieste, 1
Antwerp, 2 2
Hamburg, 1

GLASGOW.

Week ending January 4th.

Acids—
Rangoon, £54
Ammonium Sulphate—
Demerara, 252 t. 9 c. £3,419
Hamburg, 150 2,025
Java, 49 11 643
Boracic Acid—
Japan, 3½ c. £54
Rouen, 10 t. 3¼ 350
Borax—
Japan, 1 t. 6¾ c. £34
Castor Oil—
Brisbane, £43
Coal Products—
Pitch
La Rochelle, 836 t. £1,127. 8s.
St. Nazaire, 519 £726
Tar
Rangoon, £30
Cottonseed Oil—
Demerara, 3 t. 8 c. £87. 12s.
Linseed Oil—
Brisbane, 4 t. 3¼ c. £85
Japan, 9 7½ 230
Java, 16½ 22
Manure—
Rouen, 10 t. 1 c. £80
Paint—
Chili, 2 t. 15½ c. £59
Singapore, 9 12¾ 77
Demerara, 1 15 34
Rangoon, 220
Painters' Colours—
Java, 6 t. 4 c. £136
Paraffin Wax—
Japan, 4 t. 3¾ c. £79
Rouen, 2 1¾ 26
Bilbao, 5 145
Potassium Bichromate—
Japan, 11 t. £414
Rouen, 18 3½ c. 727
Antwerp, 7 5½ 272
Potassium Prussiate—
Japan, 2,607 lbs. £85
Rosin Oil—
Rotterdam, 10 brls. £20
Salt—
Brisbane, 250 t. £305
Soap—
Demerara, 21 t. 11½ c. £405
Soda Ash—
Brisbane, 47 t. 2¾ c. £216
Sodium Bichromate—
Rouen, 37 t. 2¾ c. £1,190
Antwerp, 4 19¾ 160
Sodium Phosphate—
Halifax, 1 t. 17 c. £27
Tallow—
Amsterdam, 1 t. 8 c. £50
Rotterdam, 6 7 200
Rangoon, 1 6½ 33
Turpentine—
Japan, 1,765 gls. £207

TYNE.

Week ending December 30th.

Alkali—
Venice, 8 t. 16 c.
Amsterdam, 29 19
Ammonium Carbonate—
Barcelona, 11 c.
Ammonium Sulphate—
Hamburg, 35 t.
Venice. 5 10 c.
Rotterdam, 45
Ghent, 80
Antimony—
Antwerp, 1 t.
New York, 45
Amsterdam, 2 10 c.
Arsenic—
New York, 11 t. 12 c.
Barcelona, 15
Asbestos—
New York, 1 c.
Barium Binoxide—
New York, 1 t. 4 c.
Bleaching Powder—
Lisbon, 5 t.
Antwerp, 34 4 c.
Christiania, 14 1
New York, 114 6
Venice, 8 19
Amsterdam, 49 t. 11 c.
Rotterdam, 35 3
Drontheim, 10 1
Libau, 15 4
Caustic Soda—
Lisbon, 4 t. 19 c.
Antwerp, 4 18
Hamburg, 11 17
New York, 133 9
Barcelona, 14 15
Amsterdam, 19 6
Rotterdam, 2 18
San Francisco, 24
Litharge—
Lisbon, 1 t. 2 c.
Antwerp, 1 14
Oporto, 3
Amsterdam, 1 1
Gothenburg, 1 9
Magnesia—
Hamburg, 6 c.
Barcelona, 5 t. 4
Magnesium Carbonate—
New York, 1 t. 6 c.
Paint—
New York, 3 t. 10 c.
Paraffin Wax—
Barcelona, 5 t. 2 c.
Soda—
Lisbon, 5 t. 5 c.
Odense, 5
Christiania, 10 1
Drammen, 50 1
New York, 54 1
Venice, 20 5
Aarhuus, 12 5
Rotterdam, 21 17
Ghent, 1 10
Bergen, 2
Gothenburg, 10 5
Soda Ash—
Antwerp, 10 t. 4 c.
Drammen, 11 4
Venice, 29 19
Gothenburg, 13 12
Sodium Hyposulphite—
Libau, 2 t. 5 c.
Sodium Silicate—
Barcelona. 3 t. 7 c.
Sodium Sulphate—
Lisbon, 5 t. 2 c.
Sulphate of Lime—
Lisbon, 1 t. 2 c.
Sulphur—
Antwerp, 12 t. 10 c.
Christiania, 50
Drammen, 200
Drontheim, 100
Gothenburg, 25
Superphosphate—
Venice, 200 t. 1 c.
Tallow—
Hamburg, 14 c.
White Lead—
Copenhagen, 2 t. 17 c.

GOOLE.

Week ending December 27th.

Alkali—
Dunkirk, 30 dms.
Chemicals *(otherwise undescribed)*
Antwerp, 1 ck.
Boulogne, 3
Rotterdam, 73
Coal Products *(otherwise undes.)*
Boulogne, 5 tins.
Hamburg, 8 cks.
Rotterdam, 173
Manure—
Antwerp, 193 bgs.
Rotterdam, 16
Pitch—
Antwerp, 450 t.

GRIMSBY.

Week ending December 30th.

Albumen—
Antwerp, 11 cks.
Carbolic Acid—
Antwerp, 20 btls.
Chemicals *(otherwise undescribed)*
Dieppe, 5 cks.
Naphtha—
Dieppe, 122 cks.

PRICES CURRENT.

WEDNESDAY, JANUARY 10th, 1894.

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 116, PORTLAND STREET, MANCHESTER.

The values stated are F.O.R. at maker's works, or at usual ports of shipment in U.K. The price in different localities may vary.

	£	s.	d.
Acids:—			
Acetic, 25 °/₀ and 40 °/₀ .. .. per cwt.	7/6 & 11/3		
,, Glacial .. .. ,,	50/-		
Arsenic S.G., 2000° .. .. ,,	0	14	6
Fluoric .. .. per lb.	0	0	3¾
Muriatic (Tower Salts), 30° Tw. .. .. .. per bottle	0	0	10
,, (Cylinder), 30° Tw. .. .. ,,	0	3	0
Nitric 80° Tw. .. .. per lb.	0	0	1¾
Nitrous .. .. ,,	0	0	1¾
Oxalic .. .. nett ,,	0	0	3¼
Phosphoric, 1750° .. .. ,,	0	1	2½
Picric .. .. ,,	0	1	0
Sulphuric (fuming 50 °/₀) .. .. per ton	15	10	0
,, (monohydrate) .. .. ,,	5	10	0
,, (Pyrites, 168°) .. .. ,,	3	0	0
,, ,, 150° .. .. ,,	1	5	0
,, (free from arsenic, 145°) .. .. .. ,,	1	6	0
Sulphurous (solution) S.G. 1025 .. .. .. ,,	3	0	0
Tannic (pure) .. .. per lb.	0	1	2
Tartaric .. .. ,,	0	0	11½
Arsenic, white powdered .. .. nett per ton	13	10	0
Alum (loose lump) .. .. ,,	5	2	6
Alumina Sulphate (pure) .. .. ,,	5	0	0
Aluminoferric .. .. ,,	2	10	0
Aluminium .. .. per lb.	0	3	0
Ammonia, Anhydrous .. .. ,,	0	1	:
,, ·880=28° .. .. per lb.	0	0	3
,, =24° .. .. ,,	0	0	2¼
,, Carbonate .. .. nett ,,	0	0	3¾
,, Muriate .. .. per ton	25	10	0
,, ,, (sal-ammoniac) 1st & 2nd .. per cwt.	39/-& 37/-		
,, Nitrate .. .. per ton	44	0	0
,, Phosphate .. .. per lb.	0	0	10½
,, Sulphate (grey) London .. .. .. per ton	7	7	6
,, ,, (grey) Hull .. .. ,,	13	7	6
Aniline Oil (pure) .. .. per lb.	0	0	6¼
Aniline Salt ,, ... ,,	0	0	5¾
Antimony .. .. per ton	45	10	0
,, (tartar emetic) .. .. per lb.	0	1	0
,, (golden sulphide) .. .. ,,	0	0	10
Barium Chloride .. .. per ton	7	10	0
,, Carbonate (native) .. .. ,,	3	10	0
,, Sulphate (native levigated) .. .. .. ,,	45/- to 75/-		
Bleaching Powder, 35 % .. .. nett ,,	7	15	0
,, Liquor, 7 % .. .. ,,	3	10	0
Bisulphide of Carbon .. .. ,,	11	15	0
Chromium Acetate (crystal) .. .. per lb.	0	0	6
Calcium Chloride .. .. per ton	2	5	0
China Clay (at Runcorn) in bulk .. .. .. ,,	17/6 to 35/-		
Coal Tar Products and Dyes:—			
Alizarine (artificial) 20 % .. .. .. net per lb.	0	0	8
Magenta .. .. ,,	0	3	9
Anthracene, 30 % A, f.o.b. London .. per unit per cwt.	0	1	1
Benzol, 90 % nominal .. .. .. per gallon	0	1	5
,, 50/90 ,, ... ,,	0	1	6
Carbolic Acid (crystallised 40°) .. .. .. per lb.	0	0	6¼
,, (crude 60°) .. .. per gallon	0	1	7
Creosote (ordinary) .. .. ,,	0	0	2½
,, (filtered for Lucigen light) .. .. ,,	0	0	3
Crude Naphtha 30 % @ 120° C. .. .. .. ,,	0	0	9
Grease Oils, 22° Tw. .. .. per ton	2	5	0
Pitch, f.o.b. Liverpool or Garston .. .. .. ,,	1	9	0
Solvent Naphtha, 90 % at 160° .. .. .. per gallon	0	1	4
"Lucigen" and "Wells Oils .. .. ,,	0	0	2½
Copper .. .. per ton	42	7	6
,, Sulphate .. .. ,,	15	15	0
,, Oxide (copper scales) .. .. ,,	40	0	0
Glycerine (crude) .. .. ,,	13	0	0
,, (distilled S.G. 1250°) .. .. ,,	43	0	0
Iodine .. .. nett, per oz.	0	0	9
Iron Sulphate (copperas) .. .. per ton	1	10	0
,, Sulphide (antimony slag) .. .. ,,	2	0	0
Lead (sheet) for cash .. .. ,,	10	10	0
,, Litharge Flake (ex ship) .. .. ,,	13	0	0
,, Acetate (white ,,) .. .. ,,	26	0	0
,, ,, brown ,,) .. .. .. ,,	17	10	0
,, *Carbonate* (white lead) pure .. .. .. ,,	20	0	0
,, *Nitrate* .. .. ,,	20	0	0

	£	s.	d.
Lime, Acetate (brown) .. .. per ton	6	17	6
,, ,, (grey) .. .. ,,	10	15	0
Magnesium (ribbon and wire) .. .. per oz.	0	2	3
,, Chloride (ex ship) .. .. per ton	2	10	0
,, Carbonate .. .. per cwt.	1	17	6
,, Hydrate .. .. per ton.	17	0	0
,, Sulphate (Epsom Salts) .. .. .. per ton	2	19	0
Manganese, Sulphate .. .. ,,	17	15	0
,, Borate .. .. per cwt.	2	12	6
,, Ore, 70 % .. .. per ton	4	5	0
Methylated Spirit, 61° O.P. .. .. per gallon	0	2	2
Naphtha (Wood), Solvent .. .. ,,	0	3	9
,, ,, Miscible, 60° O.P .. .. .. ,,	0	5	0
Oils:—			
Cotton-seed .. .. per ton	22	0	0
Linseed .. .. ,,	21	10	0
Petroleum, Russian .. .. per gallon	0	0	3¼
,, American .. .. ,,	0	0	5¼
Phosphorus (yellow) .. .. per lb.	0	2	2
,, (red) .. .. ,,	0	2	9
Potassium (metal) .. .. per oz.	0	3	7
,, Bichromate .. .. nett per lb.	0	0	4½
,, Carbonate, 90% (ex ship) .. .. .. per ton	16	10	0
,, Chlorate .. .. per lb.	0	0	7¾
,, Cyanide, 98% .. .. ,,	0	2	0
,, Hydrate (Caustic Potash) 80/85 % .. per ton	21	15	0
,, ,, (Caustic Potash) 75/80 % .. ,,	20	10	0
,, ,, (Caustic Potash) 70/75 % .. ,,	20	0	0
,, Nitrate (refined) .. .. per cwt.	1	2	6
,, Permanganate .. .. per cwt.	3	5	0
,, Prussiate Yellow .. .. per lb.	0	0	10¾
,, Sulphate, 90 % (ex ship) .. .. .. per ton	9	15	0
,, Muriate, 80 % (do.) .. .. .. ,,	8	0	0
Silver (metal) .. .. per oz.	0	2	7⅜
,, Nitrate .. .. ,,	0	2	10
Sodium (metal) .. .. per lb.	0	3	4
,, Carb. (refined Soda-ash) 48 % .. nett per ton	5	5	0
,, ,, (Caustic Soda-ash) 48 % . ,, ,,	4	5	0
,, ,, (Carb. Soda-ash) 48% .. .. ,, ,,	4	5	0
,, ,, (Carb. Soda-ash) 58 % .. .. ,, ,,	4	2	6
,, ,, (Soda Crystals) .. .. .. ,, ,,	3	0	0
,, Acetate (ex-ship) .. .. ,,	16	0	0
,, Arseniate, 45 % .. .. ,,	11	0	0
,, Chlorate .. .. per lb.	0	0	8¾
,, Borate (Borax) .. .. net, per ton.	28	10	0
,, Bichromate .. .. ,, per lb.	0	0	3¾
,, Hydrate (77 % Caustic Soda) (f.o.b.) net pr. ton (10 ton lots)	11	0	0
,, ,, (74 % Caustic Soda) ,, ,, ,, (10 ton lots)	10	5	0
,, ,, (70 % Caustic Soda) ,, ,, ,, (10 ton lots)	9	5	0
,, ,, (60 % Caustic Soda) .. ,, ,, (10 ton lots)	8	5	0
,, ,, (60 % Caustic Soda, cream) (f.o.b.) ,, (10 ton lots)	8	0	0
,, Bicarbonate .. .. ,,	6	15	0
,, Hyposulphite .. .. ,,	6	10	0
,, Manganate, 30% .. .. ,,	16	0	0
,, Nitrate (95 %) ex-ship Liverpool .. .. per cwt.	0	9	6
,, Nitrite, 98 % .. .. per ton	29	10	0
,, Phosphate .. .. ,,	15	0	0
,, Silicate (glass) .. .. per ton	5	7	6
,, ,, (liquid, 100° Tw.) .. .. .. ,,	4	5	0
,, Stannate, 40 % .. .. per cwt.	3	0	0
,, Sulphate (Salt-cake) .. .. per ton.	1	0	0
,, ,, (Glauber's Salts) .. .. ,,	1	10	0
,, Sulphide .. .. ,,	8	10	0
,, Sulphite .. .. ,,	5	15	0
Strontium Hydrate, 100% .. .. ,,	8	10	0
Sulphocyanide Ammonium, 95 % .. .. per lb.	0	0	7½
,, Barium, 95 % .. .. ,,	0	0	5¼
,, Potassium .. .. ,,	0	0	7½
Sulphur (Flowers) .. .. per ton.	8	0	0
,, (Roll Brimstone) .. .. ,,	6	10	0
,, Brimstone: Best Quality .. .. ,,	4	2	6
Superphosphate of Lime (26%) .. .. ,,	2	7	6
Tallow .. .. ,,	28	0	0
Tin (English Ingots) .. .. ,,	78	0	0
Tin Crystals .. .. per lb.	0	0	6¾
Zinc (Spelter) .. .. per ton	16	12	6
,, Chloride (solution, 96° Tw.) .. .. .. ,,	5	15	0

THE

CHEMICAL TRADE JOURNAL

AND

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LAST YEAR, under the title which heads this article, we made the first step towards presenting to our readers a consecutive record—brief, yet comprehensive as possible—of the chief events which happen from year to year. In picking up our subject where we left it twelve months ago, we are confronted by the words with which we then concluded our remarks. They expressed the hope that the year 1893 might show as good a record of quiet but steady advance as was indicated by our general retrospect of 1892.

Full as the past year has been of misfortunes and disorganising incidents, we nevertheless think, that a dispassioned perusal of the review which is to follow will reveal to most, that amid all the turmoil of labour disputes, chemical science has been steadily advancing; while the application of science to industrial purposes has also by no means been brought to a standstill.

In endeavouring to justify this belief, we must briefly enumerate

THE ADVANCES OF SCIENCE

which bear upon chemistry and physics in relation to the chemical and co-related industries.

In the domain of research, Professor Dewar has been making considerable advance with his work on the chemistry of gases, and the reduction of the same to a liquid or solid state by intense cold and pressure. M. Moissan has turned his attention in the opposite direction, and has been trying what he could do at excessively high temperatures. Considerable success has attended his efforts, as by the aid of his electric furnace he has volatilized platinum, gold, silver, iron, copper, aluminium, tin, manganese, and uranium; while lime, carbon, silicon, and magnesia have been evaporated. He has yet, however, to subdue metallic carbides, borides, and silicides. Pickering has succeeded in isolating two hydrates of nitric acid, the existence of which had been predicted, but which hitherto had not been obtained. Lord Rayleigh has been occupied with the densities of the principal gases; Schryver has been working on the oxidation products of turpentine; and another investigator has advanced the study of the influence of gravity on the concentration of fluids. Messrs. Cross and Bevan, in conjunction with C. Beadle, have made some interesting experiments touching the interaction of alkaline cellulose and carbon bisulphide, while further investigations have been made upon the freezing point of sulphuric acid of different strengths. The atomic weights of nickel and cobalt have occupied the attention of Winkler; and J. J. Thompson has been verifying the work of Perrot on the electrolysis of steam, with the result that much of the work of the latter was found to have stood in need of confirmation.

The oil and colour industry will find something to learn from Hartley's work on "The Composition and Properties of

Manganese Borate, and the Origin of Colour and Fluorescence"; while the analogy between sound and colour, a subject which at various times has received much attention, though without so far producing very brilliant results, has been still further investigated by Macdonald. A. G. Perkin has also contributed to the extension of our knowledge of the Indian dye kamela, a subject which is full of interest.

Both sewage treatment and the purity of water have received considerable attention during the past year, and numerous processes for disposing of sewage have been tried with more or less success; though finality in regard to this question, like the will o' the wisp, seems about as far off as ever. The bacteriological aspect of both these matters has been more to the fore; most interesting work on the action of light on bacteria (*C.T.J.*, No. 316, p. 369) having been prosecuted, while Messrs. Frankland and Ward have presented to the Royal Society the second portion of their report on the vitality of the *bacillus anthracis* in potable waters. Further, in this connection a syndicate has been formed during the year to exploit the Scott-Moncrieff sewage purification process. A useful review of the chemical methods of treating water, and sterilising the same so as to render it fit for a town's supply, has also been published by Kröhnke.

Nikola Tesla has been busily engaged setting forth his ideas on Light, and other high frequency phenomena, thereby contributing in no small degree to the advancement of a most interesting and useful branch of science.

Ozone and sodium peroxide have been heard of a good deal lately, and both Shenstone and Traube have been working upon the composition of ozone and hydrogen peroxide, the former having been introduced into the commercial world by Andreoli for the first time on anything like a satisfactory footing. Sodium peroxide, apart from its applications in industry, has been growing in favour as a laboratory reagent, and promises to prove a useful one for many purposes; numerous applications of it to analytical work having been described in the chemical literature of the past year.

We must now leave the sphere of chemical research and proceed to look at what has been done outside the same with the information provided by those who have engaged in purely chemical investigations. Bearing in mind the close relationship which in one sense exists between pure and applied chemistry, it will require but a few steps to bring us to

TECHNOLOGY.

Technical education, though scarcely as predominant as it was in 1892, has not been overlooked. On the contrary, in many directions things have assumed a much more healthy appearance. The truth of the general bearings of Lunge's paper on the Education of Chemists has been, and no doubt will still further be recognised, and the necessary modifications in our educational system be in due course effected. The work done by the City and Guilds of London Institute in this direction is of a high order, and the increase in the number of students shows that it is appreciated. Between 1881 and 1893 the number of students increased from 2,500 to 22,621. The municipalisation of technical schools promises to do much towards providing institutions capable of affording our students an education similar to that of the gymnasia under the Continental system. Last year also saw the respective completion and conception of two important improvements in the facilities for the practical teaching of science. We refer to the opening of the Science Buildings of the Ley's School at Cambridge; and to the extension of the scheme for building a Schorlemmer Memorial Laboratory at the Victoria University, Manchester, so as to provide for the construction of two large additional laboratories for the Faculty of Science at Owens College.

To mention all the technological advances of the past year would be superfluous, seeing that our columns are principally devoted to such matters; but there are a few points concerning which additional reference may not be out of place. To be brief, these points constitute a few of the more important technological events of the year. The interesting question of the respective efficiency of coke and plate towers has again been to the front, the cudgels having been taken up on behalf of the former by Dr. F. Hurter. Lunge and Pret have published a most interesting paper on the production of chlorine from manganese dioxide and nitric acid (*C.T.J., No. 316, p. 369*). Messrs. Cross and Bevan have introduced viscoid; ozone has been produced on mercial scale; and Carborundum, a new abrasive material promise, has been brought more prominently before the public. processes which were in progress before the beginning of th advances have been made with the production of chlori ammonia soda waste liquors; while Ludwig Mond's Nickel near Birmingham, are all but completed. The aniline colour continues to grow, great advances in the production of artificia having been made, as is also the case with the manufacture of s anhydride and high explosives. Sulphuric acid concentrating p have likewise been very prominent.

The numerous electrolytical processes for the production and bleach have not been stationary, but despite the reports co the prodigious progress made in certain quarters, we have not much of the newly prepared products upon the market. The soda works of the United Alkali Company, Limited, are, howe on the way towards completion, and may be expected to hav thing to show for themselves in the course of the next twelve

With mention of the United Alkali Company, Limited, the our readers will naturally turn to the

CHEMICAL AND ALLIED INDUSTRIES.

Le Blanc alkali manufacturers have had the satisfaction of se second annual general meeting of the company just mentio hearing the announcement of a 7 per cent. dividend on the p shares and 6 per cent. on the ordinary shares. Further than directors were able to present a very satisfactory report, of w portion referring to the prospective ammonia-soda works, m verily glistened before the eyes of the shareholders when Brunner, Mond, and Company declared their dividend of 100

The history of the coal-mining industry during the past year startling in the extreme, and linked to it are many of the mo passages in the annals of numerous trades for 1893. These however, already dealt with in our issue of the 6th inst., and al now purpose doing is to recapitulate generally those inciden have universally affected the chemical trade. Among the ne panies which have been started we find Bischoff's White Lea cate and the Coke and Bye-Products Company; while the N White Lead Company has been reconstructed. The follow among those companies which have been converted into limi cerns :—G. Dobson, Limited; The Ruchill Chemical C Limited; Messrs. Rose, Downs, and Thompson, Ltd.; The Wa Chemical Company, Limited; and The Pontardulais Chemic pany, Limited. Of new companies, besides those which ar chemical, there has been, among many others, The Electrolytic tion Syndicate, Limited; The Equitable Paint and Varnish Sy Limited; and The Hungarian Petroleum Company, Limited.

The Scotch oil trade was dealt with at length last week; a therefore, be disposed of without further comment, save to that the question of the flashpoint of mineral oils will probably of more than once during the year, as it has been during twelve months

Considerable attention has been accorded the consideratio health of chemical operatives; so much so that the question dealt with by a Departmental Committee, who have made recommendations upon this matter. Whether they will be ado yet to be seen; but we feel sure chemical manufacturers will come any reasonable measures for minimising the dangers atte life or limb in chemical manufacturing operations.

Another feature of the year has been the announcement the Sodium Nitrate Combine of their intention to withdr restrictions on production after next March. It should be mind, however, that the other objects of the Combine will be carried out.

The legal cases during the year have not been very momen mention may be made of the Lanolin case; the prosecution of Corporation by the Mersey and Irwell Joint Committee; t against the Caron Chemical Works for emitting arsenical fun also the case of Bowes and others *versus* the Caustic Soda and Syndicate. With these we have said all that is necessar connection.

As a matter nearly related to the interests of those included under the heading of the present section, we should like to say a word or two on the subject of

PATENTS IN 1893.

In the following we have prepared a classification of the patents applied for during the year that terminated recently. The number of patents taken out has been extremely large, exceeding 25,000, the highest figure for the year ever reached before. It will not be altogether uninteresting to note the relative numerical proportions which the various classes of patents bear to each other, information which may be gathered from the following figures, which approximate very closely to absolute accuracy :—Of applications for letters patent for *Chemical Processes* there have been 175 ; *Chemical Plant and Apparatus*, 63 ; *Electro-Chemical Processes*, 41 ; *Smoke Prevention*, 52 ; *Paints and Pigments*, 46 ; *Sewage and Oils and Fats*, 35 each ; *Artificial Fuel*, 35 ; *General Hygiene*, 25 ; *Soap*, 18 ; *Manures*, 10 ; *Boiler Anti-Incrustants*, 7 ; *Explosives*, 10 ; *Artificial Stone*, 8. From the foregoing an estimate of those branches of chemical industry which have received most attention from inventors can readily be made, many of the figures speaking for themselves.

Adverting to our previous remarks about chemical law cases, the same may well apply to the instruments of the law—Acts of Parliament.

LEGISLATION

last year did not greatly affect the chemical industries in particular. The principal measures which have been on the *tapis* are :—The Fertilizers and Feeding Stuffs Bill, two River Pollution Prevention Bills, the Employers' Liability Bill, two Bills on Railway Rates, and the Elementary Education Attendances Bill. Of those which have become law, the two most important to the chemical trades are the Fertilisers Act and the River Pollution Act. The chief bearings of the former have already been detailed in our columns. It may be mentioned though, that up to now the appointment of the "chief analyst" under this Act has not been made. Naturally, the matter is of considerable interest to the analytical profession, as well as the manure trade.

We now come to the last division of our subject, which deals with a few

MATTERS OF GENERAL INTEREST

which have transpired during the past year. 1894 still finds us waiting the pleasure of the Labour Commission, which now appears to be at war with itself. The experiments on Air and Fog mentioned at the commencement of 1893 are, we understand, still being quietly carried on. As a small item towards the alleviation of the smoke and fog nuisance, we note that nearly 30 bodies, mostly corporated, have applied for Electric Lighting Provisional Orders during the year. Purity of food has been well to the front, the crop of prosecutions under the Food and Drugs Act for imitation or adulterated vinegar, butter, and milk having been a plentiful one. While the Somerset House Laboratory still drags out its invidious existence, the Institute of Chemistry has, in the interests of its members, opened a splendid laboratory for the examination of candidates. The Messrs. Lumiere have made advances on M. Lippmann's direct process of colour photography ; while the utility of photo-micrography in the service of bacteriology has been extended. In conclusion, we have only to record that last month saw the memorial statue of Joule unveiled, and then we have done.

What the present year has in store for us we cannot say, but those who feel justified in prophesying, promise better times, and since

A merry heart goes all the way,
Your sad tires in a mile-a,

we prefer to hope for the best, trusting that the preparation of the review of the present year, will afford greater scope for congratulation than the past has done.

VICTORIA DUST COLLECTOR AND AIR FILTER.—A ventilating and dust-collecting plant has recently been put down in an artificial manure works at Schweizerhall, Basel, in Switzerland, by M. Emil Fiechter, of 69, Hartington-road, Liverpool, to deal with the offensive vapours which are given off at these works. We learn that the installation is now working very satisfactorily, the relief afforded by the removal of the obnoxious smells being considerable, while the filter chimney through which they are passed effectually absorbs the same, avoiding the creation of any nuisance outside the works.

Laboratory Hints & Appliances.

A USEFUL FILTER FUNNEL.

THE accompanying cut represents a filter funnel constructed on a new principle, which, on account of its peculiar formation, enables all kinds of solutions to be rapidly filtered in a very short time through smooth filter paper.

The internal ribs themselves are deep, beginning at the edge of the funnel and continuing till they merge into the contracted neck of the same.

On this account the whole surface of the filter remains free for the purposes of filtration, and in contrast to the old method (which only allowed the filtrate to pass away through the apex of the filter) the filtrate is allowed to flow away unhindered.

It is evident on this account, the filter having the whole of its area in an active state, that the filtration process is accomplished very quickly ; large quantities being easily passed through the filter.

For the same reason, with volatile bodies, the unavoidable loss through evaporation, which usually took place, is very appreciably reduced.

Also for oils, sugar solutions, &c., it has been proved in practise that very satisfactory results can be obtained with these filters, so that the makers are able without exaggeration to recommend them as the best for such purposes. Besides being suitable for the foregoing purposes, these filters can be put to a number of uses too numerable to mention, as with increased filtering area a correspondingly increased efficiency is attained.

To secure better circulation of the air, four fine ribs are attached to the outside of the funnel where the apex of the cone unites with the tubular extension, which, resting in the neck of the filter flask into which the liquid is being filtered, supports the filter, allowing the air to escape freely from the filter flask as it is displaced by the inflowing filtrate.

These filters are patented in England and Germany, and can be had from Messrs. F. Jackson and Co., Manchester. The original manufacturer, from whom supplies for the trade can be obtained, is Herr Poncet, glass worker, 54, Köpnicker Strasse, Berlin. They are made in three sizes, viz., 7in., 4in , and 2½in. in diameter. In the Manchester Technical Laboratory, a 2½in. filter passed 10 c.c. of a lubricating oil (sp. gr. 0·914) in 25 minutes, an ordinary corrugated funnel taking 34 minutes to perform the same work.

BATTERY HYDROMETERS.

THE importance of keeping the solutions in Léclanché cells of the right strength, and also of maintaining the specific gravity of the solutions in accumulators, will be granted by any one who has had much to do with either class of cell.

Where a number of batteries have to be inspected and maintained, as is the case with electrical companies and those who have installations of lighting plant, etc., the utility of an instrument such as is depicted on the next page is very considerable. The efficiency of these battery hydro-meters is supplemented by their extreme simplicity.

Fig. 1 shows a handy form for accumulators. The contracted end is open, and there is also a small hole at the bottom of the wide bore tube through which the fluid in the accumulator ascends and finds its own level. The beads, which are of different colours, rise as the specific gravity increases. There are four different coloured beads in the tube, indicating different gravities, as shown in the illustration.

Fig 1

Fig 2

The correct gravity is shown on the bead which floats nearest the centre of the tube. The hydrometer has a hooked top, so that it may hang inside the accumulator. It is extremely simple and absolutely reliable, and is used extensively in the Science Classes at South Kensington by Sir David Salomons and Sir Richard Webster.

The second figure is a slightly smaller instrument loaded with shot at one end, and having the scale clearly marked in its stem, practically the same as an ordinary Twaddell glass. It is made to float in the battery, and is in extensive use by electric companies. Both of these hydrometers are made by J. J. Hicks, of Hatton Garden, London.

THE DOOLITTLE VISCOSIMETER.

THE viscosity of an oil is recognised by both the producer and consumer as the most valuable measure of its lubricating power, and yet we find no uniformity whatever in the manner of determining this essential property. There are numerous viscosimeters in use, and yet the need of a standard instrument still exists.

When we speak of a temperature of 212° it is well understood because the Fahrenheit thermometer is recognised as a standard, but when we refer to a viscosity of 125 seconds it has no meaning whatever *unless it is accompanied by the name of the instrument on which it was obtained*, and oftentimes the name of the observer as well, thus necessitating the carrying in mind of the ratio of numerous instruments to each other, a very perplexing and unsatisfactory task.

The application of the principle of the torsion balance to the determination of the viscosity of fluids was brought into prominence several years ago by Mr. S. M. Babcock, and following up the observations of this gentleman, Mr. O. S. Doolittle, the chemist to the Philadelphia and Reading Railroad, U.S.A, has successfully applied the torsion principle, producing what is perhaps the nearest approach to a standard *instrument that has so far* been introduced. Seeing that this viscosi*meter has been subjected to the test of daily* use for more than eighteen months, giving all the time satisfactory results, it may well sidered to have passed the experimental stage. A glance accompanying cut will show how the principle has been applie

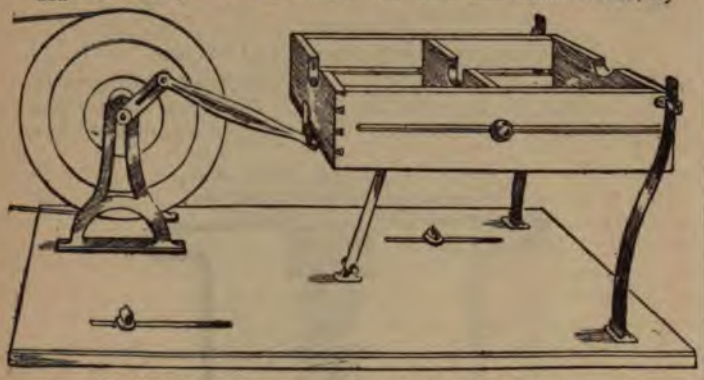
A steel wire is suspended from a firm support and fastened t which passes through a graduated horizontal disc, thus allowi measure accurately the torsion of the wire. The disc is adjusted so index point reads exactly zero, thus showing that there is no to the wire. A cylinder 2in. long by 1½in. in diameter, having a stem by which to suspend it, is then immersed in the oil and by a thumb-screw to the lower part of the stem of the disc. cup is surrounded by a bath of water or high fire-test oil, acco the temperature at which it is desired to take the viscosity temperature being obtained, while the disc is resting on its s the wire is twisted 360° by rotating the milled head just ab graduated disc. The disc being released, the cylinder rotate oil by virtue of the torsion of the wire.

To overcome the slight variations which must necessaril between different instruments, although the same are made wit care by Messrs. Bullock and Crenshaw, of 528, Arch-stre U.S.A, each instrument is standardised against pure car solutions, after the manner proposed by Mr. Babcock, and the v is expressed in the number of grams of pure cane-suga tained in 100 c.c. of the syrup at 60° F., which will retardation designated at 80 F. These readings are obtai making a number of solutions containing known amounts of pu sugar, and determining the retardation of each. A curve mapped out on a piece of plotting-paper, the number of g sugar in 100 c.c. of the different syrups representing the absciss the degrees of retardation, the ordinates This curve enable interpolate the value of each degree of retardation in terms cane-sugar, and in this way a table of viscosities is drawn up a nished with each instrument. This table renders the results o by different instruments strictly comparable.

A LECTURE EXPERIMENT BALANCE.

THIS balance is specially designed for lecture demonstrati Messrs. Philip Harris & Co., Limited, of Birmingham beam carries on its top a counterpoise in shape of a ball, rotatin

may be regulated. In order to avoid the necessity of altering the length of the cord which passes from the motor to the wheel, the base board of the apparatus is provided with slots and thumb-screws, by



means of which it may be securely fixed to the bench at different distances from the motor. For shaking liquids in large vessels, the extent of the excursion of the truck should be greater and the rate of motion less rapid than when small vessels are employed.

A very handy motor from which to obtain the necessary power is the Thirlmere High-Speed Water Motor, as illustrated above.

THE FLASH-POINT OF HEAVY OILS.

FOR determining the flash-point of ordinary mineral oils there is no better apparatus than Abel's Standard Tester, but for the efficient and economical determination of the flash-point of heavy mineral oils Gray's apparatus has much to commend it. Its two principal features are the means for effecting a thorough agitation of both the oil and the vapour, and the automatic alternate operation of the rotating mixers and the movement of the sliding cover when testing for the flash.

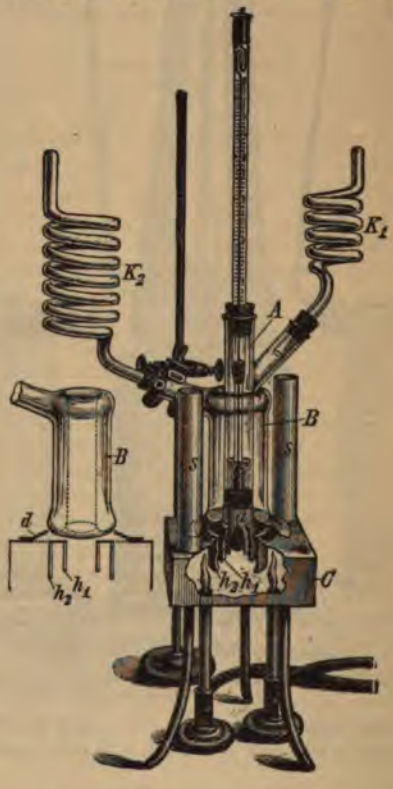
The following description will explain these two points more fully:

The cup is a brass oil-cup of the same dimensions as the oil container used in the Government Standard Petroleum Tester (Abel's). On this cup, which is set in a suitable stand, is placed a tight-fitting cap or lid. Through the lid a steel shaft passes, carrying on the top a small bevelled wheel, the bevel of which is milled, and on the lower part two sets of stirrers, one of which is below the surface of the oil, and the other in the vapour space above. A horizontal shaft carried on two standards terminates at one end in a bevelled wheel which gears with the wheel on the vertical shaft, and at the other end in a disc, the outer rim of which is made of bone or other suitable non-conductor of heat, and on this disc is fixed a handle for rotating the shaft. This horizontal shaft carries a collar, from which two small pins project at diametrically opposite points. By sliding the shaft slightly to the right the bevelled wheels are drawn out of gear, and the pins projecting from the collar put in position for actuating the testing arrangement. On the lid proper there are three orifices, one immediately in front of the test-light and the other two at either side of it. Above the lid is the sliding cover, in which there are two orifices corresponding to those on the fixed lid. When the bevelled wheels are in gear the sliding cover is held in its normal position by a spring, and the orifices in the fixed lid are covered. When the sliding cover is moved by turning the disc about a quarter of a turn round, the orifices coincide with those of fixed lid, and at the same time the test-light is depressed and bro

into position for producing the flash when the proper temperature been reached.

MOLECULAR WEIGHT APPARATUS.

AMONG the various apparatus designed for determining the m cular weights of bodies either by the freezing or boiling p methods, those designed by Beckmann are among the neatest



venient. The illustration herewith represents an improved apparatus for making determinations by the boiling point

ermometer is graduated into 1·100th of a degree. The air-bath C estos. The steam-jacket B (also shown in detail) is either of porcelain. The two spiral condensers, K_1 and K_2, are well ned, and the rest of the apparatus is designed to give maxi- ciency for obtaining results as free from experimental error as

In fact, so interesting is this apparatus that we hope, ere have more to say about it.

A RAPID AIR-TESTER.

IT often occurs, from time to time, the need for a rapid and sonably accurate method of testing for carbon-dioxide. To need, Lunge and Zeckendorf have devised a little apparatus aws a certain amount of air through a solution of sodium car- y squeezing an india-rubber ball.

average quantity of CO_2 in the air of a chamber is to be tested, ust be well mixed before the sample is drawn. If the air in ion only is to be taken, the free end of the india-rubber ball placed in it, and the ball pressed several times by the hand in fill both ball and bottle with the air. The bottle is then and 10 c.c. of the test solution introduced by means of a 10 c.c. but the pipette must not be blown into), the stopper of the uickly replaced, and the bottle shaken rapidly for about a The india-rubber ball is then slowly but firmly pressed , so that the air streams through the fluid, the bottle shaken as nd this repeated until the red colour in the solution is dis-

If a few pressures only are necessary, the air of the space very bad; if from 9 to 10 pressures are required moderately from 20 to 25 very good.

preparation of the test solution is effected thus:—Dissolve 5·300 grammes chemically pure sodium carbonate in about a of distilled water, then dissolve it in 1 gramme of phenolph- heating slightly, cool to 18°C, and make up to 1 litre. This mal soda solution will keep in a closed bottle for a considerable For use introduce into a 100 c c. flask 2 c.c's. of this solution, fill recently boiled and cooled distilled water to the mark on , and use 10 c.c's. of this for each test. This $\frac{1}{500}$th normal must be preserved in a well-stoppered bottle, which, after ening, is quickly re-stoppered.

experiments are interrupted for any length of time, it is best re the weak solution afresh, as the weak solution will not keep an a day.

the following table the amount of carbon dioxide in the air can e ascertained:—

f pressures rubber ll.	Parts per 1,000 of carbonic acid in the air.	Number of pressures of india-rubber ball.	Parts per 1,000 of carbonic acid in the air.
2	3·0	15	0·74
3	2·5	16	0·71
4	2·1	17	0·69
5	1·8	18	0·66
6	1·55	19	0 64
7	1·35	20	0 62
8	1·15	22	0·58
9	1·0	24	0·54
10	0·9	26	0·51
11	0·87	28	0·49
12	0·83	30	0·48
13	0·8	35	0 42
14	0·77	40	0·38
		48	0·30

paratus and the foregoing three are to be had from Messrs. Baird lock, Hatton Garden, London.

AN INFLAMMABLE GAS DETECTOR.

detection of inflammable gases is always a rather delicate eration for many reasons, nor is the utility of an instrument of detecting such gases confined to its employment in mines. re other uses to which it can be put, in a manner which may be the cause of a good number of lives (to say nothing of inconvenience) being saved. The testing of the atmosphere in the tanks of petroleum-carrying vessels being a case in point.

It has long been known that the pale but hot flame of hydrogen gas is the flame which is by far the best adapted for detecting small per-centages of "gas" in the air. Serious difficulty, however, attended the use of this flame for gas-testing purposes, and its employment underground had been given up, until Dr. Clowes devised a simple and effectual means of burning the gas in an ordinary safety-lamp. The hydrogen oil-lamp is a thoroughly practical form of lamp, which, when burning its ordinary oil-flame, serves for lighting and for gas-testing in the usual way, and which may at any moment have a hydrogen flame substituted for the oil-flame without opening the lamp. The lamp then becomes as delicate a gas-detector as has yet been produced. It can detect with certainty 0·25 per cent. of fire-damp in air, while its highest indication reaches 6 per cent.

Dr. Clowes has further carefully measured the precise heights of the "caps" corresponding to different percentages of fire-damp, both for the hydrogen flame and for the reduced oil-flame. These measure-ments for the hydrogen flame-cap had never been undertaken before, because the use of the hydrogen-flame for gas-testing was considered impossible.

The employment of the hydrogen-flame enables the most delicate tests to be made in an ordinary safety-lamp. Delicate testing by means of an alcohol-flame has been stated to be possible in the Pieler lamp; but the use of alcohol necessitated the employment of a large flame, and, consequently, a large lamp. The alcohol lamp had the dis-advantage also that it gave no light, and had, therefore, to be carried together with another ordinary oil safety-lamp. Attempts have been made to reduce the size of the alcohol-flame, so as to introduce it into an ordinary safety lamp; these have resulted in the detection of "gas" down to 1 per cent., but lower percentages do not yield a cap which can be seen and estimated under the ordinary conditions of the mine. This is probably due to the flame not being sufficiently hot, and also to its being somewhat luminous.

It will be easily understood that a jet of burning hydrogen gas can be at once adjusted with certainty to a standard size and height; a result much more difficult to attain and to maintain with liquid burnt from a wick. Comparative experiments fully support these conclusions. It is extremely important that the tests made at different times and in different places should be comparable with one another and with a standard scale. In order to secure this, the flame used in testing must be always brought to precisely standard dimensions, since any differ-ence in the size of the flame produces a much greater difference in the height of the cap.

Provision is made in the hydrogen oil-lamp for bringing the hydrogen-flame always to a standard height of 0·4 inch. And a scale is also furnished within the lamp by means of which the height of the cap can be noted and can be converted readily into gas percentage by memory, or, if necessary, by reference to a small pocket scale-card.

It will be understood that the lamp is not intended for the working miner. It should be used by those officials whose duty it is to make careful, delicate, and accurate examinations for "gas." In the hands of such men the lamp has proved to be simple and effective; and it is believed that its use will become extended when its handiness, sim-plicity, safety, and accuracy become more widely known. Statements from managers of large collieries, who have used the lamp in their pits, are coming to hand. One of them will serve to show the general impression produced. A large Yorkshire manager writes:—"I think the present form of your instrument is strong and portable, not liable to derangement, and can be easily understood by an ordinary colliery official. From the practical tests I have made, I look forward to the regular use of your invention as a means of increasing the standard of efficiency and watchfulness on the part of all mine officials, and of thereby assisting the management."

The advantage of being able to test for, and to measure with accuracy in a few seconds, very low percentages of "gas" on the spot and in the mine itself will be fully appreciated. It is only necessary to refer to the acknowledged danger arising from low percentages of "gas" in the presence of coal-dust. Also to the necessity of tests

being constantly carried out on the air in the "main return," and in the "returns" from the districts, in order to properly distribute the ventilation current. For this purpose it is necessary to constantly and quickly measure percentages of gas as low as 0·5 and even as 0·25. This is universally conceded on the Continent, and is also agreed to by our best English authorities; the hydrogen oil-lamp makes such measurements easy, possible, and safe. It has been found impossible to extinguish the hydrogen-flame burning inside the lamp under any conditions, either ordinary or accidental, which occur in the mine; with the sole exception of the introduction of the lamp into an explosive or inflammable mixture, or into undiluted after-damp, or choke-damp. The flame survives treatment which at once extinguishes the flame of oil and of alcohol.

Hence, if the hydrogen oil-lamp has to be exposed to any conditions in which there is a risk of "losing the flame," the hydrogen flame may be turned on as an auxiliary flame. It will survive and will serve to re-kindle the oil-flame.

HYDROGEN-OIL. TESTING-LAMP

The maximum degree of portability and convenience has been recently secured, by further largely reducing the size and weight of the hydrogen cylinder. It has been made, at the same time, quickly attachable directly and rigidly, to the lamp, so as to form a convenient handle for supporting the lamp. The cylinder now weighs little over a pound; it measures five inches by one; and several such cylinders may be carried in the pocket without inconvenience. When charged with hydrogen gas from a large store cylinder, under about 100 atmospheres pressure, it furnishes the standard hydrogen flame, burning continuously for about 40 minutes. This small cylinder will receive several hundred charges from a large store cylinder, which starts with a pressure of 120 atmospheres, and is ultimately reduced to about 60.

The cylinder is shown in the above cut attached to the Ashworth-Hepplewhite-Gray testing lamp as made by the makers, Messrs. W. J. Fraser and Co., of London. The arrangement here depicted being that which is now generally adopted. The hydrogen cylinder is attached or detached by a quarter turn, while the proceeding of passing from the bright flame to the hydrogen flame, making a test and passing back to the luminous flame can be effected in half-a-minute.

The lamp will probably be used as follows:—If the percentage of gas present is unknown, the oil-flame will first be reduced, and a cap looked for over this flame. If the gas amounts to 3 per cent., or more, it may be detected and estimated by the flame. If no cap is seen, and low percentages of gas have to be looked for, the hydrogen cylinder is attached, the standard hydrogen flame is obtained in the lamp, and the percentage of gas can be seen and estimated by this flame, if it is between 0·2 and 3 per cent.

One method of testing has been altogether passed by. Fire-damp is often now tested for by looking for the "spiring" of the full bright flame, turned up to the verge of smoking. I regret the necessity of *omitting this method the less*, because after carefully testing it, I am convinced that it is far inferior in accuracy and delicacy to t here fully referred to, of applying the flame-cap test with all precautions. In fact, the test by spiring is only suitable for and not for measuring, gas when it is present in some qu further fouls the upper gauze with soot, and renders the la able for use.

In conclusion, it may be said that this hydrogen oil-lamp primary conditions of an efficient testing apparatus; it is c it is safe, it is a good illuminant, and it combines delicacy wit and with a wide range of indications. It has repeatedly dete cent. and 0·5 per cent. of gas in "returns," which were con contain none.

PAINT MACHINERY.

MESSRS. FOLLOWS & BATE, LD., engineers, of Go chester, who for some time past have given special atten provements in plant for paint mills, have just constructed fr designs a couple of exceptionally large granite edge runner mill in Russia, who have recently erected in that country an exte grinding, lead, and colour works. One of these mills is fit granite bed 10ft. diameter and 16in. thick, and is fitted and s with a cast-iron ring in four segments forming the pan. Th for this mill weighs about eight tons, and is fitted with a sin runner, 6ft. diameter, and 24in on the face, weighing The gearing is carried in massive cast-iron **A** brackets and and is of exceptional strength. The bevel or crown wheel o of the vertical driving shaft is 9ft. diameter, and drive horizontal shaft which is carried on **A** brackets. Particular has been given to the arrangement of scrapers in this mill, th during the operation of grinding being gathered togethe revolution and left in line with great precision, directly in fr revolving stone; after being sufficiently ground, the outl opened, and an ingenious discharge scraper is lowered stopping the mill, and the pan is emptied automatically.

The second mill is similar in all respects to the o described, with the exception that the bed is fitted with tw instead of one. Both mills are self-contained, and are driv and loose pulleys, weighing together upwards of thirty tons.

They have also just designed and completed a new iron ed mill, fitted for hand power, specially arranged for up-coun where steam power is not available. This mill, which has tw each weighing 13 cwt., and a pan 4ft. 6in. diameter, we gether about three tons, the pan being made with a fl throughout, so that it can be put upon rollers and moved place to another without any necessity for taking it to pie gearing is of sufficient power to enable two men to work the perfect ease, and it is very adaptable for grinding up c building purposes, or other rough material.

A SUBSTITUTE FOR LINSEED OIL.—The following is method for preparing a composition oil, possessing the q linseed oil, as a vehicle for paint. The composition consis petroleum, one gallon; yellow beeswax, one-fourth to one-ha powdered resin, one-half pound; zinc sulphate, one-eighth quarter pound; lead acetate, one-eighth to one-quarter pound one-half to one ounce; linseed oil, one-half to one pint similar to a large steam boiler with a dome and manhole, is This still is provided with two sets of coiled tubing inside, one perforated for admission of steam. The crude petroleum is fi in the still, and blown by direct steam for six or eight ho lighter impurities have passed out to a suitable condenser. acetate and zinc sulphate are then added to the petrole contents of the still are heated by sending steam through closed tubing till the solution has boiled for an hour. The resin, and rubber are then added, and the ingredients boile for about seven hours. The mixture is then allowed to coo linseed oil added.

THE NEW WELSBACH INCANDESCENT GAS LAMP.

THIS incandescent gas lamp as now constructed by the Incandescent Gas Light Co., Limited, 14, Palmer-street, London, S.W., consists of a specially-constructed bunsen burner, consuming from 3 to 3½ cubic feet of gas an hour, according to the pressure employed. Over this bunsen or atmospheric flame is suspended a filament technically termed the mantle, which, immediately the burner is lighted, becomes brilliantly incandescent, giving out a clear, soft, steady light of exceptionally high candle power. The results obtained will be better appreciated by comparing this burner with the ordinary gas burners in use, and the comparison can best be made by giving the candle power per cubic feet of gas consumed.

A Bray's burner, No. 7, gives 2½ candles per cubic foot of gas.
An Argand Burner, ,, 3⅝ ,, ,, ,,
A Regenerative Burner, 8 to 10 ,, ,, ,,
A Welsbach I.G.L. Burner, 18 to 20 ,, ,, ,,

Or in other words, the Incandescent Gas Light is about one-seventh the cost of a Bray's burner, one-fifth the cost of an Argand burner, and half the cost of a regenerative burner, while obtaining the same amount of light.

This large economy in gas is not, however, the only advantage to be derived from the use of the Incandescent Gas Light system, as it obviates the smoke and dirt which usually accompany the use of gas, and which is so destructive to ceilings, decorations, etc.

There is yet another advantage, and perhaps the greatest of all, which this system possesses over every other system of gas-lighting, viz., that only half as much carbonic acid is generated from a given quantity of gas, and therefore the atmosphere is kept very much more healthy.

The burner can be applied to any existing gas fittings, so that no alterations to chandeliers, brackets, etc., are required.

A word may here be said to disabuse the public mind of the idea that this new Welsbach system of Incandescent Gas Lighting is the same as that introduced to the public seven years ago under the same name. It is the same, and it is not the same. It is the same in so far that the idea is similar, viz., raising a delicate filament to incandescence by the flame of an atmospheric burner, but the construction of every part of the lamp has been vastly improved, and has this year been brought to almost perfection.

The burner itself has been greatly improved, in so much as it now produces perfect combustion, and in design it is much more ornamental and substantial. The greatest improvement of all however has taken place in the mantle; whereas, formerly the mantle was capable of emitting a light of only eight candles or thereabouts, per cubic foot of gas, it now gives from 18 to 20 candles per cubic foot of gas. A test with Salford gas made in the Manchester Technical Laboratory, having shown that with an equal consumption of gas the candle power is four times greater than that of an Argand burner. Formerly, its light-giving power began to decrease after the first 500 hours, and the decrease after that period was comparatively rapid. Now there is no decrease whatever for the first 800 to 1,000 hours.

The fragility of the mantle has in one sense not been overcome, but practically its fragility is no bar to its use, as when properly treated and providing the directions for its use are observed the fragility is no drawback; while we learn that the colour of the light can be modified by varying the composition from which the mantle is prepared when the present colour is found undesirable.

The manner in which the mantle is now supported over the burner is also a great improvement Formerly, it was supported by a side rod, ending in a ring from which the mantle hung. This rod, however, was liable to bend over owing to the heat, and this caused the breakage sometimes of the mantle or sometimes of the chimney, and often of both. Now, however, the mantle is supported by a central rod of a fire-resisting material, which not only cannot be bent, but being quickly raised to incandescence actually adds to the brilliancy of the light.

For use in chemical laboratories this light will be found very handy. By its aid titrations with litmus or silver nitrate may be made at night with the greatest ease, a thing hitherto impossible.

THOUGH the past year has not been so eventful as its predecessor in regard to the havoc which the ruthless hand of "Old Mortality" has worked amongst the lights of the scientific world, nevertheless, in preparing the following *résumé*, we have to mention the names of several we would fain have kept out of this category for many a year to come. Strikingly so is this the case with the ardent yet able controversialist and scientific devotee

JOHN TYNDALL,

Ætat 73,

who died on Monday evening, December 4th, 1893. Having suffered from insomnia for some time, the late Professor had been in the habit of taking narcotics. These he took alternately with Epsom salts, and, owing to a somewhat feasible mistake under the circumstances which it appeared prevailed, his wife administered a large dose of chloral hydrate instead of sulphate of magnesia. Speedily finding out the mistake, every preventative measure was taken, but to no avail; while the subsequent efforts of his medical attendants were powerless to bring about a better state of affairs. The dose was given about 8.30 in the morning, and by half-past six p.m. all was over. Under such circumstances the task of reviewing the life and work of the late Professor is rendered inordinately uncongenial.

In the main, the fame of Tyndall amongst his contemporaries was owing to his being a masterly expounder of scientific results, an unrivalled experimentalist, and an unsurpassed controversialist.

His famous and much discussed address at Belfast, as President of the British Association in 1874, is one of the landmarks in the history of Darwinism. Merely as a specimen of the richness of diction and polish of style of which our tongue is capable, it is almost fascinating. But at the time of its delivery it created an immense sensation all over the civilised world for quite other reasons than its style. It may be taken as the first clear and unmistakable public utterance as to the aims of modern science, and as to the bearings of the doctrine of evolution on the beliefs that have influenced humanity from the beginning. But Tyndall had sentiment and aspiration enough to soften down the dogmatism in the body of the address, which grated on the minds of many of his hearers and readers, by that tender and hopeful conclusion, ending with the famous words, "Here, however, I must quit a theme too great for me to handle, but which will be handled by the loftiest minds ages after you and I, like streaks of morning cloud, shall have melted into the infinite azure of the past."

The details of his early life will not take long to fill in. Born in 1820, at Leighlin Bridge, near Callow, in Ireland, of humble parents, he had in his youth few educational advantages, being partly taught by his father and partly at a neighbouring school. At the age of nineteen he joined the staff of the Ordnance Survey, which was working at Callow. Five years later he was engaged by a Manchester firm, and was employed as a railway engineer. This position he exchanged in 1847 for that of master of Queenwood College, Hants., where he met Frankland, and devoted himself to chemical research. In 1848, in company with his friend Frankland, he repaired to the University of Marburg, studied under the great Bunsen, and became known to the scientific world as the author of a luminous treatise on "The Magnetopic Properties of Crystals," and in 1851 repaired to the laboratory of Professor Magnus, of Berlin. Elected F.R.S. in 1853, he was in June of that year appointed to the chair of natural philosophy in the Royal Institution of Great Britain, conjoined with the post of superintendent, an office in which he succeeded Faraday. He was now investigating diamagnetism, and the result of his discoveries are to be found in the

volume, "Researches on Diamagnetism and Crystallic Action" (1870). Meanwhile Professor Tyndall had visited the Alps for purposes of recreation in 1849, and speedily began to go there yearly for the purposes of studying the glacier formation. In 1856 he made a memorable expedition to Switzerland, in company with Professor Huxley, which resulted in a joint treatise "On the Structure and Motion of Glaciers."

The way of the lad with a natural bent for the laboratory rather than the study, is made far easier nowadays than it was when young Tyndall was learning mathematics in an obscure Irish school, where chemistry had probably scarcely been heard of, and where it can certainly never have been taught. It was characteristic of the man (who doubtless bore in mind the time when he himself, impelled merely by his overpowering love of science spent the first few pounds he had saved on a course of chemistry in Germany under Bunsen) to act as he did when in the time of his full recognition as one of the first scientists of his epoch he reaped a harvest of £2,600. by his lecturing tour in the United States, and to place the money in the hands of a committee who were to spend the interest upon it in assisting students devoting themselves to original research.

The number of his published works is large, eleven appearing between 1860 and 1872, while six other important works followed subsequently.

An instance of his fearlessness in contending for what, according to his tenets, was right and truthful, is to be found in the way he championed an injured inventor. The facts of the case briefly stated were these—Having for several years acted as scientific adviser to the Board of Trade and the Lighthouse Authorities, he withdrew in 1883 owing to a disagreement with Mr. Chamberlain, who was then President of the Board of Trade. The difference was concerning a new invention for lighthouse illumination. Professor Tyndall took up the cudgels on behalf of the injured inventor and weilded them vigorously. "The head and front of my offending," he wrote, "was my effort to protect from official extinction, an able and meritorious man who had the misfortune to raise a rival at Trinity House, and to ruffle the dignity of the gentlemen of the Board of Trade." Mr. J. Wigham subsequently received £2,500 compensation for the appropriation of his invention.

On the proposal of Faraday, Tyndall was appointed Professor of Physics at the Royal Institution, with which he remained connected in this capacity, and subsequently, on the death of Faraday, as Resident Director until his retirement in 1887.

He was a close personal friend of Professor Huxley, whom he met at the Ipswich meeting of the British Association in 1851. He was also Rumford medallist of the Royal Society, D.C.L. Oxford, and LL.D. Cambridge and Edinburgh.

LEWIS MILLS NORTON,

Ætat 39.

In Dr. Norton, America loses one of the most promising chemists the country ever had. Though such a statement may at first appear rather sweeping, seeing that Dr. Norton had not exactly achieved a world-wide reputation, we think we are justified in making the assertion, since Dr. Norton was one of the few who, after completing his theoretical study of chemistry and physics, turned his attention to industrial chemistry; recognising the paramount importance to the rising generation of chemists of combining a knowledge of chemistry with that of engineering. He thus did a service to his country in the interests of science that few other men have done, in that he teach to young chemists, intended for industrial vocations, th nation of chemistry and engineering which was so strongly a last year by Prof. G. Lunge in his address at Chicago. Strang while Dr. Norton was inaugurating a course of lectures on Engineering at the Massachusetts Institute of Technology, lectures of a similar nature were being delivered at the M Technical School in England.

Born at Athol, Mass., from 1872 to 1875 he was an arden of chemistry at the Institute of Technology. The next two spent as assistant instructor in analytical chemistry. In 187 to study at Berlin and Paris, finally taking his degree from in 1879.

Returning to America, for two years he acted as chemis Amoskeag Manufacturing Co., of Manchester, N.H., where practical experience which shaped and influenced his subseque as a teacher of industrial chemistry.

In 1881 he returned to the Massachusetts Institute of Techr instructor in general chemis 1883 he was appointed assis fessor in organic chemistry 1885 associate professor in or industrial chemistry. The duties of these two growing ments proved to be too muc man to fulfil, and Dr. Norto the systematic instruction i chemistry at the end of the year in 1891; after that time his entire thought and streng subject of industrial chemistry, he was deeply interested.

LEWIS MILLS NORTON.

In 1888 the faculty of the of Technology, upon the sch sented by Dr. Norton, fou course in chemical engineerin a course of study was need should add to a thorough in mechanical engineering, knowledge of general, theore applied chemistry, was at onc from the number of student scholarship who entered the ne Under Dr. Norton's fosteri the course in chemical en increased in numbers and and mention of the course o was made in the back numbe *Journal*. He gave it his bes and effort, and happily saw before his death the course es on a firm foundation.

The style of the work which was done under his superinten his students in connection with the chemical engineering lec utility of the same, and excellent training thereby afforded, is the thesis work of the students. The following will be suf indicate the nature and scope of the work so done. Inve were made regarding the specific heat of brines; the heat lo gases from boilers; the bi-sulphite paper pulp process; vaporization of ammonia; the production of oxygen by ele and the production of chlorine and sodium hydrate by the elec salt. Experiments were also made upon the relative effects o for fuel and illuminating gas; the maximum and minimum for SO_2 by burning sulphur; explosions of petroleum lamps; a pulp digesters; the efficiency of mechanical stokers, and the lytic deposition of nickel.

On his own account, Dr. Norton contributed as many as t papers on various subjects to the technical press at the rate two a year.

Dr. Norton's influence on high scholarship at the Institute nology was felt in all departments of chemistry. The book

ments in general chemistry, which he compiled in connection with the late Professor Nichols, has been a most valued aid to instruction at the Institute, and has been largely used at other schools.

In organic chemistry his instruction was on a high plane, yet he never lost sight of the importance, in a school of this character, of insisting on the industrial applications of scientific research.

But it was in the teaching of industrial processes that he especially excelled. His lectures were listened to with eagerness by his pupils, who recognised the master who could deal with equal facility with the scientific basis of a process and with its economic merits. His range of subjects in industrial chemistry was very wide. Not only were the textile industries, bleaching, dyeing, printing, pigments, etc., thoroughly taught, but the great industries of the world in their manifold variety received from him exhaustive treatment. His intimate acquaintance with the manufactures and manufacturers in New England kept him in close touch with the progress of all its industries.

The good work which was in such a flourishing condition was unfortunately prematurely robbed of its director; the comparative youthfulness of the late teacher being apparent from the portrait we reproduce. The want created by his loss is likely to be deplored by many a student of technological chemistry, as Dr. Norton was one of a class which is lamentably scarce.

FREDK. AUGUSTUS GENTH.

Ætat 73.

Frederick Augustus Genth was one of the greatest mineralogical chemists of America. Born in 1820, he was trained at the Hanau Gymnasium and at Heidelberg. He next went and studied under Liebig at Geissen, devoting much time to chemistry, though he gave special attention to crystallography and did not neglect his mineralogical studies. In 1843 he went to Marburg and studied under Bunsen, for three years acting as his assistant, at the end of which time he took his degree at Marburg. He then proceeded to Philadelphia and established an analytical laboratory, in which he was occupied doing commercial work and original research for twenty years. He held for many years the post of chemist to the State Board of Agriculture of Pennsylvania, being the first to be elected to this office, and practically controlled the fertilizer trade of this State. One of the most important specialists in this branch of manufacture bears testimony that his official work was always regarded as being absolutely reliable. This position he held until the recent establishment of the Agricultural Experiment Station in connection with the State College, to which was transferred the conduct of all researches in the interests of agriculture.

He was also, for a number of years, mineralogist to the Second Geological Survey of Pennsylvania.

In 1872, he was elected to the chair of chemistry and mineralogy at the University of Pennsylvania. This position he held until 1888, when differences with the administration caused his withdrawal.

His most important contribution to mineralogy is probably his monograph on "Corundum: Its Alterations and its Associated Minerals." His ingenious interpretation of the metamorphoses exhibited by this mineral, upon which, as well as his numerous careful analyses, his conclusions as to the character of the alternative operations of nature were based, have now been generally accepted by mineralogists and geologists.

His contributions to chemistry proper are less numerous, though some are of considerable importance. In this category undoubtedly must be placed his famous discovery of the "Ammonia-Cobalt Bases," the credit of which certainly belongs to him, notwithstanding the almost simultaneous announcement of those compounds by Claudet and Frèmy. The joint investigation of these compounds by Gibbs and Genth is a classic research.

His much-quoted paper, on "The Metallurgical Process of the Friederichshütte," is replete with interesting results, notable among which is the discovery of an allotropic form of oxide of nickel contained in the metallic copper. Familiar to all the analytical fraternity is his method of analysing chrome iron ore and his method of determining copper as oxide.

In estimating his scientific career, it is not too much to say he was one of the ablest mineralogists America has ever known, and perhaps one of the greatest mineral analysts in the scientific world. He was an excellent teacher, and, though almost brusque in manner at times, endeared himself among his students by the friendly interest he took in their careers.

F. AUGUSTUS GENTH

ROBERT HEATH,

Ætat 77.

Mr. Robert Heath, of Biddulph Grange, Stoke-on-Trent, was the founder of the firm of Messrs. R. Heath and Sons, colliery proprietors and iron makers, of North Staffordshire.

Mr. Heath was born at Sneyd House, Burslem, in 1816, and was educated at Dr. Magnus's school, at Etruria Hall. At the early age of fourteen years he left school, and was employed at the Clough Hall Collieries and Ironworks, of which his father was the manager. After being some years at Clough Hall, Mr. Heath entered into partnership with the late Mr. F. Stainer, and the firm started the forge and rolling mills at Silverdale, subsequently opening the Knutton Forge. Ultimately the partnership was dissolved, and Mr. Heath took over the works in the Biddulph Valley which had been previously carried on by Mr. James Bateman, and in 1873 he purchased from the latter gentleman the Biddulph Grange Estate, where he subsequently resided. From that time Mr. Heath gradually extended his business, until he became the largest coal and ironmaster in North Staffordshire, working extensive blast furnaces, puddling furnaces, and rolling mills, and a number of collieries at Norton, Black Bull, Ford Green, Ravensdale, Tunstall, and the Biddulph Valley.

The greater part of his life was spent in building up the great concern (employing from 5,000 to 6,000 men) of which he was head.

A few years ago he acquired the mineral rights pertaining to the Clough Hall estate, and later, he took over the Kidsgrove Pits which he and his father had previously managed. In 1886, however, he retired from commercial life, leaving the business in the hands of his four sons, Messrs. Robert, James, Arthur Howard, and John Everard Heath. Mr. Robert Heath was one of the original members of the Iron and Steel Institute, and was a regular subscriber to the *Chemical Trade Journal* till his death in October of last year.

JOSEPH HEYWOOD,

Ætat 65.

Mr. Joseph Heywood was for forty-one years lecture-assistant and steward of the chemical laboratories at the Owens College. He was born in 1828, and on the opening of the College laboratories at Quay-street in 1852 was appointed, under Dr. Frankland, the first Professor

of Chemistry. He resigned his position only a few weeks before his death, on November 28th, 1893. It was no ordinary service that Mr. Heywood rendered to the College during his long period of work. For although he had received no previous training in chemistry, he soon developed remarkable skill in the devising of new experiments, and as assistant to Sir Henry Roscoe he became well known to scientific audiences all over England. In the "Record of work done in the Chemical Department of the Owens College," and again in a recent review in *Nature* of a book on chemical lecture experiments written by a former student of the College (Mr. Newth, *vide C. T. J.* 296, p. 39), Sir Henry Roscoe has borne testimony to Mr. Heywood's services, and drawn attention to special experiments devised by him. It was unfortunate that their author did not himself publish descriptions of these experiments, which have now, for the most part, passed into the common domain. In his enthusiasm for chemistry Mr. Heywood never counted time or trouble if he could only succeed in the task set before him; and many generations of College students have carried away with them the memory of his kindness, and of his willingness to help whenever his skill could be of avail.

BRYAN DONKIN,

Ætat 84.

Mr. Donkin was born at Bermondsey, in 1809. He was educated at various schools near London, and subsequently went to Paris to complete his education. The early part of his life after leaving school was spent assisting his father, who was a paper-makers' and printers' engineer.

It seems at first peculiar that the associations which surround the name of Bryan Donkin in connection with gas valves and plant should exist, since the connection between printing and gas-making is not very close.

As a matter of fact, it was not till 1847 that this branch of the business, which is now carried on under the title of Messrs. Bryan Donkin and Company, Limited, was opened out, and was then confined to the manufacture of gas valves. Valves, however, remain a prominent feature among the productions of this firm even to day. Subsequently the manufacture of Beale's patent exhausters was also undertaken by the firm.

In connection with the erection of paper-making and printing machinery, Mr. Donkin had occasion to visit Nantes (during the French Revolution), Spain, and Russia. In the latter country, at St. Petersburg, he erected a large mill, fitted with 2,000 H P., for the manufacture of bank note and State paper for the Russian Government.

The honour of developing and bringing to its present high position in the gas-engineering world, this subsequent offshoot of the business, is almost wholly due to the late Mr. Donkin, and is in itself sufficient testimony to his tact, energy, and far-seeing perception in business matters.

Personally, he was a man of kind and genial disposition, and was much appreciated both by his employés and his private acquaintances. He retired from active participation in the firm about twelve years ago; and lived to see his nephew, Mr. Bryan Donkin the third, ably sustain the reputation of the firm till his decease on Monday, December 4th, 1893.

DANIEL COLLADON,

Ætat 91.

Mr. D. Colladon, who died at Geneva on July 4th, 1893, was born at the same town in which he died; a fact which may have something to do with his name not being very familiar in this country, though he was connected with the inauguration of many engineering feats and principles which are now well-known to most people. He was the inventor of the "fairy fountain," and the first man to apply compressed air to the transmission of force.

In 1841, he first applied the results of his observations upon the properties of liquids in carrying luminous waves projected at their source, and at the Paris Exhibition of 1889 the idea was carried out on a grand scale.

Another fact of which he was justly proud was that he first lit Geneva with gas, in 1843; and, in 1862, he was asked to illuminate Naples in the same way. In 1849, he began to study the pro the employment of compressed air in the piercing of tunnels. up a perforating machine against the rocks of Mont Salève current of air was supplied to the boring by means of wate which he found at hand. This was developed, and a few yea applied to the gigantic task of piercing the Mont Cenis, Gothard, and the Arlberg tunnels, and later in making tun railways over the Rocky Mountains and the Andes. When t of the Channel tunnel was first started he became a membe committee. He entertained a strong and barely-justifiable p against the electric light.

THOMAS HAWKSLEY,

Ætat 86.

Mr. Hawksley was born at Nottingham in 1807. Although i for an architect, he turned his attention early in life to geol chemistry, thereby in the end fitting himself at the early age o the post of engineer to the Nottingham Water Company.

In 1852 he removed to London, where he occupied for a lon prominent position in the gas and water engineering profession practice in this line has been so large that it would be impos give here, even a summary of his works. He himself was accu to say that he had constructed above 150 waterworks, many largest character; and that there were no important towns i Britain, and, indeed, very few great cities in the civilised w regard to which he had not been professionally consulted in so or other. All that can be done here is to indicate briefly some more prominent matters in which he has rendered public service

Among a host of other waterworks he constructed, about 1 Liverpool, the Rivington Pike works (then considered the la existence) for obtaining a supply from hills 22 miles distant; was more recently connected with the still greater work of brin the same town water from the sources of the Severn in North He also constructed a number of gas works, the largest of which we at Nottingham, Derby, Sunderland, Cambridge, and Bombay. Hawksley belongs the great merit of being the first to suggest carry into practice the system of "constant service" in water This system has been one of the greatest benefits ever confe urban populations, as it has combined the most free and ample with almost perfect repression of waste, with greatly i sanitary conditions. When he was about to construct his firs undertaking at Nottingham he saw the evils of the old inte plan, and resolved to endeavour to effect the change.

He was one of the oldest members of the Institution Engineers, which he joined in April, 1840. He took great int its affairs, and was elected Member of Council in 1853 and Vic dent in 1863. In December, 1871, he was chosen as Presid office which he filled for two years. He established, at this ti annual *conversazione* at South Kensington, to which ladie admitted. It remained popular for many years. He was also P of the Institution of Mechanical Engineers in 1876-7, and was the founders and the first President of the Gas Institute. He b to other technical bodies, and in June, 1878, he received th scientific honour of election into the Royal Society. He w awarded, at various times, decorations from the Sovereigns of Sweden, Denmark, and Brazil for services rendered to them.

CONCENTRATING SULPHURIC ACID.

MANY of our readers will no doubt be looking forward, in t Special Issue, for some remarks upon the recent deviatio old practice, in the methods for concentrating sulphuric acid.

Leaving out of the question the well established methods of tration in glass or platinum, or in gold-lined platinum, the thre important improvements, seem to us to be those of Levinstein, and Dyson. In the first of these systems the glasses are in shap parable with huge beakers, set in a stepped furnace. The acic concentrated is run into the uppermost glass and slowly finds i into the nethermost, acquiring in its transit a gravity of 1·845. the lowermost glass the concentrated acid runs into a cooler, ar thence into carboys.

The proportions of salts contained in the liquor are on an average as follows :—

Sulphate of Soda	37%
Carbonate of Soda.....	8%
Caustic Soda	24%
Sulphide of Sodium	28%
Foreign Salts (inactive).....	3%

Unless great care be exercised in the recovery, etc., of the soda, the composition of the liquor as above stated changes a good deal. The general aim of the manufacturer should be to obtain as large a decomposition of the sulphate of soda into sulphide of sodium as is possible.

It is said that the soda made by Leblanc's method is better than ammonia soda for Dahl's process, because it contains sulphide of sodium. Sulphate of soda or saltcake is also much cheaper than soda (Na_2O), and as the sulphide of sodium which it yields is already "caustic," if the term can be used in a perverted sense, less lime is required to prepare the liquors for the digesters. On the other hand, more ash or soda residue is recovered per ton of pulp made, than in the ordinary soda pulp process, which means fractionally more expense in this department.

The knowledge of the reaction going on within the pulp boiler is very limited, but experience certainly shows that the fibre is stronger, and is consequently of more value. Dahl also claims to get a higher yield of pulp, about 10 per cent. increase in fact, over the caustic soda method, when working his process.

In a German factory where this system was continuously worked for some years, seven parts of recovered soda residue, and two parts of lime were used for causticising. On 3,000 parts of good recovered residue, 700 to 800 parts of lime were used in Dahl's system, whilst in the soda process 1,200 to 1,300 parts of lime are required. A properly managed sulphate cellulose factory should not use more than 30 parts of burnt lime per 100 parts of pulp ; and a soda cellulose factory not more than 50 parts of lime for the same weight of product.

ANTICHLORS.

[SPECIALLY CONTRIBUTED.]

When paper pulp is bleached with gaseous chlorine, or with solutions of hypochlorites, the bleaching agent is supposed to penetrate into the pores of the fibres, and to be removed with great difficulty in the ordinary process of washing. Hence there has arisen the necessity of destroying the remaining chlorine or hypochlorite by the aid of a chemical reagent. The reagents thus employed are called "antichlors" They attack the chlorine, transforming it and themselves into comparatively harmless bodies, which are either washed from the pulp before sizing, or are left remaining in it, and for the most part pass away with the water from the machine.

From a chemical point of view all antichlors are reducing or deoxidising agents, with but one exception, namely, ammonia. Those in common use are mainly formed by the union of sulphurous or other oxy-acid of sulphur with soda, and, in fact, comprise the following series of salts :—

Hyposulphite of Soda	$Na_2S_2O_3+9Aq.$
Sulphite of Soda	$Na_2SO_3+6Aq.$
Bisulphite of Soda	$NaHSO_3$

The two former of these are well defined crystalline salts, and are sold as such ; but the last is a liquid and sold as a strong aqueous solution in casks.

As above stated, there is a fourth antichlor, namely, ammonia, which is used in the state of hydrate or as liquor ammonia, and is the only alkali that is found to be applicable in virtue of its well-known reaction with chlorine, thus :—$4NH_3+3Cl=3NH_4Cl+N$. The products of this reaction, gaseous nitrogen and sal-ammoniac, are perfectly harmless both as regards their action on the pulp or on the machinery, and, therefore, ammonia is considered to be the best antichlor known. It possesses, however, a disagreeable, stifling smell, is rather offensive to use, is much more costly than any of the antichlors above enumerated, and hence its application is limited. According to Lunge and Schoch, it is necessary to add a somewhat large excess to the pulp and to allow it to remain in contact for a considerable time before it acts effectually, both of which conditions are against its general practical use. In the manufacture of copperplate papers, where the presence of the antichlors and the products of their decomposition are apt to a the engraved plate, ammonia is certainly the best and most antichlor.

Hyposulphite of soda, a crystalline salt extensively manufact the Tyne, by the oxidation of soda-waste, is the most universa antichlor. Its action is similar to that of sulphite and bisul soda. The chlorine decomposes the water in the presence of forming hydrochloric acid, and liberating oxygen which oxid hyposulphurous acid to sulphuric acid, which in its turn fo sulphate of soda. Another reaction of greater importance to th maker can take place instead of the above, yielding bodies that considered more dangerous than acid sulphate of soda. Th chloric acid can act upon the hyposulphite of soda and liber hyposulphurous acid, which, being an unstable body, splits up i sulphur and sulphurous acid. The former of these two bodies in the pulp, and may give rise to disagreeable results. It is al to slow oxidation to sulphuric acid, which will locally destroy t It is generally recognised amongst paper-makers that the exces of this antichlor tends to destroy the wire-cloth of the paper m and there is no gainsaying this fact. Yet, hyposulphite of sod used without causing any damage. Care should be taken quantity employed is not greater than that necessary to kill the c allowing for a moderate excess, and that the pulp is washed a chlorine has been practically destroyed. Where water is scarce beating capacity of the mill is insufficient, it will undoubtedly l that the wires will be rapidly destroyed by the free use of this a In such instances hyposulphite of soda should be used judicious

Both sulphite and bisulphite of soda are superior antichlors respects to the above one ; neither of them acts so deleterious the wire-cloth nor upon the brass rolls of the machine. Th several kinds of these antichlors in the market differing fr another with regard to the percentage of sulphurous acid they or the amount of chlorine they will destroy. Many years ago the firms now embraced in the United Alkali Company, introduced to the Paper Trade a very pure sulphite of soda, co a large percentage of sulphurous acid, which for cheapness and has not been equalled or surpassed. This product is a h sulphite of soda of somewhat indefinite chemical composition, be said to be substantially the hydrated salt $Na_2SO_3+2H_2O$. crystallised sulphite, which contains six equivalents of water, it soluble in water, but should not be stored, nor dissolved, in vessels, owing to its action on the wood. Where much ant employed, and especially when acid has been used to accele bleaching process, it is better to dissolve an equal weight of c of soda with the sulphite. The alkali has the property of neu any acids that are present in the pulp, and those that are forme the subsequent treatment.

The finest papers are prepared from white cotton and lin and require little bleach liquor to bleach them. The action chlorite of lime (bleaching powder) is much less destructive u fibre than chlorine gas, and consequently the latter is seldom this class of work. This is also true of other fibres as wel destructive action of gas bleaching is due to the formation of fre chloric acid, which "tenders" the fibre by transforming it int cellulose.

There are some colours which are destroyed by the smallest chlorine or hypochlorite, and it is imperative that the excess o liquor associated with the pulp be either removed by was destroyed by the careful use of an antichlor. In cases of tub- is especially advisable not to use an antichlor at all, but to w pulp with pure water till it is shown on testing to be free from by the iodide of potassium and starch test ; or to add just enoug liquor to bring the colour up to the desired degree of whiteness no excess of hypochlorite will remain. The presence of ch pulp for tub-sized papers is quite as bad as the presence of an It has been found by experience that the presence of either free or antichlors in papers which have been tub-sized causes the undergo a change when kept for a time, and the judicious use is the best course that can be recommended.

SULPHITE DIGESTER-LININGS.

[SPECIALLY CONTRIBUTED.]

In the early days of the sulphite wood pulp manufacture, the greatest difficulty to be overcome was found to be in the construction of boilers that would effectually withstand the corrosive action of the bisulphite liquor. In the year 1866, the inventor of the "sulphite process" employed a lead lining, and to-day, this method of protecting the iron shell is still in use. It was found at that early period, that the sheet lead crumpled and cracked after working for a short time, necessitating constant and extensive repairs, with corresponding stoppages. Wherever this method of lining is employed, the frequent stoppages for repairs still exist; and it is not surprising that practical men should endeavour to shun it and try to find a proper substitute, to ensure more continuous working. Much ingenuity has, therefore, been displayed in the several schemes proposed to overcome the difficulties of this question. Some of these proposals doubtless suggested themselves to Mr. Tilghman, the original inventor of the process, in the early days of his experiments, but were not followed up by him, because of the many fears as to the future, and the expense involved in the development of what was then a very difficult manufacture.

The reason why lead is apt to crumble and crack, apparently lies in the fact that the ratio of the coefficient of expansion of this metal to that of iron, is as 28 : 12; and also in the peculiar property possessed by lead of refusing to contract to its original length when heated and cooled. That is to say, a strip elongates when repeatedly heated and cooled. To counteract this, an alloy of antimony and lead was early suggested, which was found to yield properties superior to pure lead, inasmuch as first, the alloy was much harder, and second, the difference in expansibility between it and iron was not so great. The use of this alloy was nevertheless found to be faulty in many respects, and it has had to give way to another; and, also, to other linings which to-day constitute the most prominent detail in the construction of sulphite pulp digesters.

The alloy referred to is that of so-called "bronze," a mixture of copper and tin. Digesters made entirely of this material originated in America, and great expectations were based on some early results obtained with them. Good bronze, of uniform texture, if one may so speak, is, however, difficult to make, especially when the castings are large; and it was soon found that the bronze showed local wear and tear, causing parts of the digester to become weak. A deplorable accident which occurred in the United States with one of these boilers has made manufacturers regard them less favourably, and although several of them are still working in America. Owing to the above and to their great original cost, their future application is not assured.

The most ingenious, and at the same time the most universally employed, lining with all its modifications was first suggested and developed by Mitscherlich in 1876. The object he had in view was to coat the interior of an iron digester with an acid-resisting substance which would not bulge or crack by heating, and which would be more durable than lead. After much patient experiment he constructed a digester, the outer shell of which was of steel plate protected inside from corrosive action by a lining of glazed bricks, tongued and grooved and set together with cement. As an additional protection, a thin sheet of lead was placed between the shell and the bricks (*C. T. J. 296, p. 42*). The principle of this method is one which has been largely adopted in a series of modified applications, all more or less successful, but associated with names other than that of Mitscherlich.

Cement when "set" is fairly acid-resisting, and possesses nearly the same co-efficient of expansion as iron. It therefore forms a very efficient lining; and many modified methods of employing this body as the basis of a lining have been introduced. Kellner and Partington in England, Wenzel in Austria, and a host of others too numerous to mention by name, in America, Germany, and Scandinavia have their own peculiar methods of applying it.

Kellner and Partington's method, which is used in the well-known Borrow Pulp Works, consists in forming the lining of a mixture of cement and ground slate, thoroughly incorporated with a solution of silicate of soda in a mortar mill. This paste is applied to the cleansed boiler shell in a series of layers, the composition of which differ from one another in regard to the quantity of silicate in the mixture; the layer nearest the shell containing proportionately the most. Small bricks or tiles are imbedded in the paste, to add to its acid resisting properties; and, instead of ground slate, sand, ground glass, bricks, or hard burnt earthenware are substituted. They cannot be any possibility of doubt as to the success of this lining for sulphite pulp digesters.

Another system, closely resembling the above, has been working for many years on the Continent with equally signal success. It was introduced into an Austrian works by the late Wm. Wenzel of Vienna, and employs porcelain tiles imbedded in a mixture of cement and ground earthenware or fire bricks. The tiles are shaped to fit the curvature of the boiler and form a smooth surface, which offers little resistance to the travel of the pulp within the boiler.

The formulæ for making the cement are not all alike, but the following is likely to answer well :—

Ground earthenware	In equal proportions.
Ground fire-bricks	
Sodium silicate solution, 30° B	1 part to 2 of above mixture.

The Wenzel lining has now been working uninterruptedly in continental pulp factories for some years, which in itself is a guarantee of its efficiency.

It will be unnecessary in this cursory review of the methods of lining sulphite digesters to dwell longer on those schemes, in which earthenware bricks, tiles, and cement are the component parts, for the above examples are typical of many others so closely resembling them, that it is difficult to discriminate their special features, which would enable one to isolate them as individual methods. There is, however, another lining which we have not mentioned, namely, that brought out by Salamon and Brügger about three years ago. This consists of a thick coating of sulphate of lime deposited upon the inner surface of the boiler, and is said to effectually protect the iron. It is a matter of common knowledge that water while hot holds less sulphate of lime in solution than when cold. Advantage has been taken of this by these inventors for forming their deposit upon the boiler. The digester is filled with a cold saturated solution of sulphate of lime and heated, insoluble sulphate of lime of a very dense, hard character is deposited, and as the water evaporates more solution is added till the deposit has increased to the desired thickness. Digesters protected by this coating are at work in the United States and in Germany, yielding apparently good results.

Enamels have also been suggested for lining pulp digesters, but they do not seem to have found as much favour as cements. The following, however, is an enamel which forms the subject of an American patent :—

Lime	5 parts
Fluor-spar	10 ,,
Salt	5 ,,
White Sand	50 ,,
Litharge	50 ,,
Boric Acid	20 ,,

The whole is mixed and melted together, then ground and mixed with water to the consistency of paint, and applied hot to the digester plates. A second coat is then added composed of :—

Calcined Bones	10 parts
Talc	5 ,,
Cryolite	4 ,,

There are many advantages to be gained by the use of these linings in preference to the older lead-lining. Their original cost is undoubtedly greater, but they last much longer, cost less for repairs, allow the work to proceed with greater regularity, and, what is of greater importance, more effectually protect the iron boiler. To get good results with any of them, the most scrupulous care must be exercised in their formation and in their examination while in work. A fracture, which would allow the bisulphite liquor to penetrate to the shell, will cause corrosion of the plate sooner or later, and therefore the interior must be examined periodically. The brick or tile and sulphate of lime linings also act as non-conductors of heat. They therefore assist greatly in the economy of fuel and in preventing the undue dilution of the liquor within the digester.

THE MANCHESTER TECHNICAL LABORATORY.

WE may perhaps be excused in this our Special Number for the weakness inherent in many other individuals besides ourselves of calling attention to one department of our business in which we, and we trust, many of those intimately connected with the chemical industries are closely interested, viz., A Technical Laboratory.

"Technical Education" has been preached *ad nauseum*, and perhaps both preachers and audience have a better understanding of what is really meant by these words than we have; nevertheless, it seems to us necessary that some little description might advantageously be afforded of what a technical laboratory consists and the work that may be done in it, as contrasted with the ordinary analytical laboratory.

An analytical laboratory, as is well known, usually confines its attention to operations on small quantities of material in which it is only necessary to know the percentage of some one of more constituents, or to determine or ascertain the effect of physical actions or chemical reactions. A technical laboratory, on the other hand, should not only be fitted for analytical work and assaying pure and simple, but arrangements should be at hand whereby experiments can be made with hundredweights of raw material, as a much better idea of manufacturing processes, and the yields obtained from them can be had from a large scale experiment than from the smaller operations on a few grammes of material in an analytical laboratory. It was with this object in view that the Manchester Technical Laboratory was fitted up.

Moreover, in many technical operations the methods of sampling and analysis may be advantageously modified from the ordinary routine of purely analytical work. An illustration or two may not be out of place. Take, for instance, the sampling and determination of moisture in the wood pulp of the papermaker, or the estimation of moisture and grease in cotton-waste. The ordinary test made on a few grammes of material is liable to be so faulty as to be utterly misleading, and unless a large sample be taken, the results may be anything but correct. A drying oven of eight cubic feet capacity to deal with five or six pounds of pulp, or an extractor to hold a kilogramme of cotton-waste, is scarcely a piece of apparatus to be found in any ordinary laboratory, yet both are absolutely necessary for technical work. The Manchester Technical Laboratory has been fitted up throughout for dealing with fairly large quantities. In the analytical department, of which the two photo-reproductions afford illustrations, a large, lofty, and well-lighted room contains the necessary apparatus. The gas table occupies the centre, and upon it are grouped the various appliances for which continuous heat is necessary, such as gas muffle, sand-baths, water-baths, gas blast furnace, drying ovens, combustion furnace, &c., and there is also a gas supply at other benches serving for minor operations. Upon one table, not well seen in the illustration, a row of burettes serve for all the titrations made in the laboratory, a separate table being used for filtrations and such like operations. Another table is used for specific gravity determinations by means of the Westphal balance. A portion of the laboratory is devoted entirely to gas analysis, where the Hempel method is in constant use.

At one end of the laboratory is a 60-inch photometer, behind which is a dressing-room for assistants and pupils, while the bench behind the spiral staircase is permanently fitted for water analysis

An elevator enables large pieces of apparatus to be transported to and from the floor above, to which access is also afforded by the spiral staircase. It is on this floor in three large well-lighted rooms that technical experiments of considerable magnitude can be performed. The engine-room is fitted with a Crosley-Otto gas engine with countershafting to drive anything which might be necessary for the moment—filter-press, exhauster, centrifugal, air-compressor, or dynamo. The heating of large pieces of apparatus is effected by means of Fletcher's large power gas burners, consuming 150 cubic feet of gas per hour, the consumption of which can be accurately measured by a large gas meter.

The facilities afforded by this laboratory for the trial of embryo industrial processes we feel sure only require to be made known to be appreciated. Many of our readers will remember the lecture given in these laboratories on sewage treatment, when about 400 gallons were treated before the audience, with pump and agitators all running during the progress of the demonstration. It is not many laboratories that can boast of such an equipment, or such an extended lecture experiment.

The Manchester Technical Laboratory was opened in the first place for the examination of industrial processes, both new and old, by means of the large scale experiment, but it has developed to more than and this has become to some extent educational, as it yields facilities for practical work very rarely met with elsewhere. The laboratories are under the immediate superintendence of the principals who conduct the whole of the technical experiments upon the subjects submitted to them.

Naturally, and as might have been expected, many investigations have been made in the purification of waste waters from manufactories this being a subject of much importance at the present time, but the apparatus is so constructed that it can at a short notice be re-arranged for almost any other operation in the range of practical manufacturing chemistry. The sample room and the drawing office remain undescribed; the former is as yet only partially developed, but it is our intention to collect samples of the more important chemical products of the world in such a manner as to be useful for reference, as colour and appearance generally are of great importance in the sale and purchase of many articles, and such samples are not always easily available the moment they are required. The drawing office is a very important branch of the Manchester Technical Laboratory, as it ensures the accurate construction of apparatus, and the old saying that "it is cheaper to make mistakes on paper" is too well known to need demonstration. Elementary chemistry is not taught in these laboratories. Any pupil coming in for technical instruction must have previously mastered the rudiments of chemistry and physics, and the path will then be easy for him to receive special instruction in that particular branch of chemical industry to which he desires to devote himself. It has often and often again been said that pupils coming direct from any large collegiate institutions are of but little immediate use in technical establishments, and to a certain extent this is no doubt too true, as the instructors as a rule, know but little themselves of technical requirements, and therefore cannot impart the fullest knowledge to their pupils; and, furthermore, rapidity of execution is an item not considered in an ordinary educational establishment. We remember being told a story some few years ago of the proprietor of a large chemical works in Lancashire sending a sample of pyrites to his son, who was studying in London, and receiving the result just a fortnight after. The dutiful son was reminded that when he arrived at the works he would be expected to do a sample before dinner on any day that it might be given him.

One reason for our giving our readers and others the foregoing description of our laboratories is that a short time ago some gentlemen came over from America to London, seeking for a laboratory wherein some large scale experiments could be carried out. They were assured by several eminent chemists that no such laboratory existed in England. In a few days, however, they discovered the Manchester Technical Laboratory, and we have now the pleasure of numbering them amongst our clients. This may not be the only case of the kind, so, to avert such a possibility, we address these few remarks to our readers in the hope that they may serve to correct any erroneous impression that we are anxious to differ from our respected fellowmen by hiding our light under the proverbial bushel.

"SANITAS" SPECIALITIES.—From time to time the Sanitas Co., Ld, of Bethnal Green, London, have introduced a number of novelties, some of which we have recently tried or inspected. Their Sanitas Soap is now well known, and their Sanitas Toilet Fluid is an article likely to find considerable favour. Their disinfectants, of course, need not be particularised here, as "A good cup needs no bush." The latest development is their Sulphur Fumigating Candles, which have been mentioned in these columns before, and are now practically perfect, constituting a neat, clean, speedy, and thoroughly efficient means for disinfecting houses and bedding, &c., after infectious diseases. The Sanitas-Eucalyptus Disinfector is another pleasant and cheap means of keeping houses in a sanitary condition, the Sanitas-Eucalyptus Oil with which it is charged being much nicer than the ordinary Eucalyptus Oil. An inhaler for the pocket is also made, charged with this oil. The following are a few other preparations for technical purposes made by the same firm:—Preserved Hydrogen Peroxide, Sanitas Emulsion, Sheep Dip, Furniture Paste, Absorbant Wool, and Soluble Blocks for water carts.

Oils, Paints, and Soap.

A MODERNISED SOAP WORKS.

OF all chemical industries, that of soap-making is one of the oldest, and yet it remains to-day an industry which in the main has been changed but little by the advances of science.

That the introduction of scientific principles, in lieu of the old "rule of thumb" methods, is capable of effecting great improvements and economies, can no longer be doubted, as the *onus probandi* is strikingly accomplished by looking at a works like those of Messrs. Joseph Crosfield and Sons, of Warrington, and comparing the present position with that of three or four years ago.

Thanks to the kindness of Dr. Markel we were privileged to make an inspection of the many improvements which have been or are being made at the works. Since he gave his services to the firm, and brought his scientific knowledge to bear on the manufacturing processes, much has been done, and valuable research work is being carried out, with the assistance of Mr. J. Studer and Dr Schütt.

Turning our attention now to the works, we must first of all refer to the increased

FACILITIES FOR TRANSPORT

which have been made, particular attention having been paid to the question of railway accommodation, all parts of the works now being connected with lines. Previously access for railway traffic was confined to a siding from the low level line of the L. & N.W. Railway Company; now the firm are connected with the higher level or main line, a convenience which cannot be easily over-estimated. Two additional locomotives have been furnished; four steamers also belong to the firm, so that it will be seen they are fully equipped for the conveyance of goods both by land and water. Owing to the Manchester Ship Canal, the advantage of the steamers is of great importance. Locomotive sheds have been erected; additional land has been acquired to enable the firm to carry out their numerous developments, and telephonic communication has been established between the head offices and the various departments.

THE BOILERS

have all been replaced by new ones of the Lancashire high pressure type. These are fitted with Vicar's patent stokers working on the coking principle. The consumption of fuel is conducted in a most efficient manner, the standard actually worked to being the attainment of 12% of carbon dioxide, and no monoxide, in the gases "behind" without producing smoke, a condition which has been actually secured in ordinary working. In consequence, smoky chimneys have been done away with almost entirely, and this is an important consideration in these days when so much is said about the importance of a pure atmosphere. Water purification plant, of the Slack and Brownlow type, has also been laid down, and the hardness of the water obtained from the Mersey is reduced to under 3° Clarke's test. The efficiency of this treatment is evident when we learn that though the average hardness of the Mersey water is 16°, in the summer months it runs as high as 30°. This chemical purification is being proceeded with at the rate of about 3,000 gallons per hour. Even this, however, is not sufficiently rapid, and a new installation is contemplated. With a view to economising the consumption of fuel at the various furnaces, gas furnaces and regenerators have largely been employed, the latest and most approved patents having been brought into requisition for the purpose.

THE LABORATORIES.

These have been extended, a laboratory for research work having been made out of the old one, and a new testing-room added. The most interesting feature in this department is, however, a technical laboratory, fitted with plant for working with hundredweights, instead of grammes. This laboratory is excellently fitted with means for heating or agitating by air and steam, vacuum pans, filter presses, and mechanical mixers; likewise, jacketed pans and direct heated boilers which can also be used as stills, besides a host of minor adjuncts. Here the theory of the laboratory is applied to the manufacturing process in miniature, and the influence of mass and such like things can be observed, thereby saving much trouble and expense in working on the manufacturing scale.

THE RECOVERY OF GLYCERINE.

One of the most striking changes has been made in the g department. From the waste soap leys, which not many ye were run into the river, crude glycerine is now obtained. The treated in a triple effect multiple evaporator, by means o in the third effect the lees are evaporated at 61°C, the heating the vacuum being effected by waste steam only, which subse passes to the steam jacket, condenses, and is pumped away for where in the works.

An additional plant is in course of construction for distill crude glycerine with the production of two grades, viz, d glycerine and chemically pure glycerine for toilet and other p The practical advantage of this new installation is that the process of concentrating and distilling can be accomplished mo veniently, and in an area about one-sixth of that formerly emplo

SILICATE OF SODA AND CAUSTIC.

The manufacture of both of these products has been fully det this *Journal* (No. 296). The caustic produced tests 77%. the superiority of the soluble glass is vouched for by the fact, addition to the uses for it which we have described (*C.T.J.* N fresh uses are constantly being found; the consumption is in quence increasing to such an extent that the manufacturing pl had to be made four times as large as it was formerly. In the of this new plant further improvements in the heating of the in which the "melt" is obtained have been made, the latest a in gas furnaces of the regenerative and recuperative type requisitioned.

THE ENGINEERING AND FITTING DEPARTMENT.

Not long ago, most repairs were executed outside the wo now Messrs. Crosfield have in their service a number of fitters, smiths, boiler-smiths, joiners, turners, pattern makers, engrave dye sinkers, all of whom are busily employed. The work exec the latter is now being done in this country, whereas formerly t had to send to Paris for all this class of work. The new fittin which was erected two years ago, and which is a perfect hive dustry, is not sufficiently large for present requirements, and an sion is here also contemplated to enable the firm to keep pace w great demands which are made upon this department.

STAMPING.

A large building is to be erected in which all the stamping done by steam power automatically. Already the stamping m in operation each turn out per day no less a quantity than fo of tablets of various shapes and sizes.

OVERHEAD CONVEYORS.

The primitive and laborious method of carrying soap boxes fr department to another has been dispensed with. Wire ropes r room to room, by means of which the boxes are rapidly conve any part of the building. A great saving of physical energy an is thus effected.

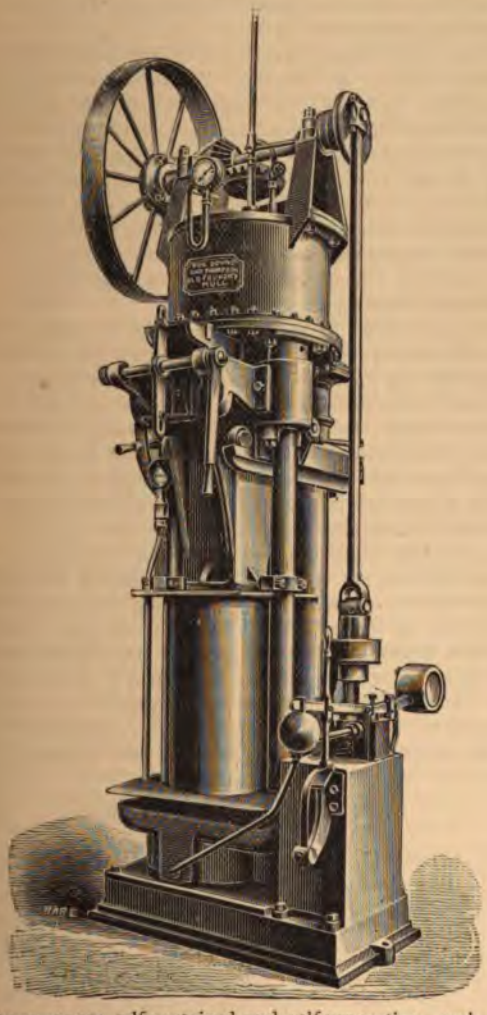
MILLED AND TOILET SOAPS.

A visit to the room in which these soaps are made and see especially interesting. The soap is cut up in thin strips by mac the scent is mixed with it, after which the soap is pressed rapi tween granite rollers to reduce it into shavings. and by this me fine and delicate scents are more perfectly blended. By the other ingenious machinery the soap is pressed together into a genous bar and then stamped into tablets. The finished produ represents a soap containing a beautifully glossy appearance, delightfully delicate scent, and giving a rich and creamy lathe firm is now doing such a thriving trade in this so-called " Milled Toilet Soap" that it has been found necessary to send Continent for the purpose of purchasing an installation, by means the output will be quadrupled, some 10,000 square y additional land having been purchased on which to erect the ne buildings and other extensions. A difficulty has been long expe in making good toilet soaps which shall be free from alkali, s not contain an excess of fat, free alkali rendering the soap keen skin. whilst fat becomes acid by rancidity, and acts injurious delicate skin. This difficulty has now been overcome with as is shown by the "Erasmic" soap.

In conclusion we should not forget to mention a fact which is very interesting, though of subsidiary importance as far as regards the drift of the subject with which we have been dealing. We refer to the intelligence of the workmen, which was noticeable in almost every department into which we entered. It stands to reason that men who are to work new furnaces and processes must either improve themselves by grappling with the difficulties which an innovation incurs, or give place to those who will. The result is that a man of ordinary intelligence entering these works can hardly fail to learn much that will increase his efficiency as a workman, by becoming familiar with plant of the latest and most scientific type. So that while working for their own ends this firm is an important factor in the spread of technical education in its highest sense, without making any special effort to do so. Parties from technical institutes we understand have also visited the works, a privilege which should be highly esteemed, as the works are one gigantic object lesson to technical students from start to finish.

THE PREMIER OIL PRESS.

WHERE only the first pressings of oil are required, as is sometimes the case (the resulting cake being used for fuel or manure), the Premier presses, made by Messrs. Rose, Downs, and Thompson, Ltd., of Hull, will be found very serviceable. The chief advantage about these presses is their simplicity, and consequently the ease with which they can be manipulated. They are also well suited for the first pressing of nuts and seeds of a very oleaginous character, which require pressing twice.

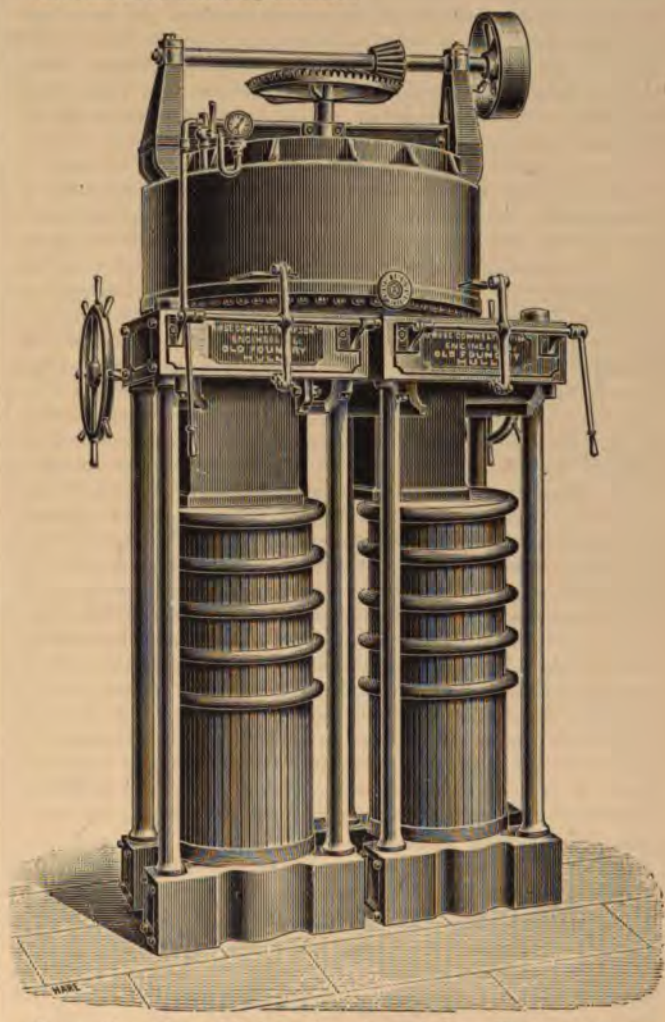


These presses are self-contained and self-supporting, each standing independently on its own base. They can, however, be worked with advantage in blocks of two or more, since one press can be crushing the seeds while the other is being unpacked and recharged.

The first illustration represents the single and complete press, while the second indicates the arrangement of a dual plant.

The *modus operandi* will be easily gathered from the following brief account indicating the principles on which these presses work :—At the top a steam-jacketed pan to receive the ground nuts or seeds is situated, in which the oil-bearing material is mixed, moistened, and heated. Under this pan a lever handle will be observed for operating two-sliding plates, by means of which the right quantities of meal are passed into the cake cylinder. A handwheel, more clearly seen in the second illustration, also operates the sliding head between the cake-cylinder and the presshead.

Everything being in order, the kettle is filled with the ground material to be pressed, which is passed through openings in the bottom into chambers formed in each presshead. These chambers have a capacity equal to the quantity of material required to form a cake, and are closed at top and bottom by the slides shown in the engravings. In filling the press the sliding head between the top of the circular cake cylinder and the presshead is withdrawn by means of the hand-wheel, and the press-ram pumped up nearly to the top of the cake cylinder, leaving room for the crushed material required to form a cake. The bottom slide of the chamber in the presshead is then opened, which allows an accurately-measured



charge of meal to fall into the cake cylinder. The lever is next reversed, which closes the bottom of the chamber, and opens the top to the material in the kettle, from which it is again filled. Prior to the introduction of the second charge, however, a circular iron plate is placed upon the material already in the cake cylinder, this series of

operations being repeated until the press is fully charged. When this is done the sliding block is run forward, and the pressure applied. The cake cylinder, which is constructed entirely of metal, is pierced with an immense number of small holes, and retains the solid matter under pressure, while permitting the oil or other fluid to escape. The process of emptying the press is as follows:—The sliding block is removed, pressure applied, and the cakes and intervening plates are forced out of the cake cylinder and removed in turn.

The plant shown in the second woodcut will, for many purposes, be found to contitute a complete oil-mill, and is especially suited for the expression of first-pressure cold-drawn castor oil, apart from the other applications for which it is suited.

ENAMEL PAINTS.

[SPECIALLY CONTRIBUTED.]

THE manufacture of enamel paints has grown to very large proportions during the past few years, the great bulk being manufactured for use by amateur painters and artists, although a very large quantity is consumed by painters for surfaces where a very high polish is required. Enamel paints are paints which, when applied to the surface of objects, leave behind a hard and very lustrous coating, very different in appearance to the much duller coat left by an ordinary paint, and therefore have a greater decorative effect. What were known as varnish paints have been common for years, but these were only used for low-class work, and not for any artistic work at all. There is no doubt but what the greatly extended use of cycles during the past decade, and the need of the owners for some paint which would dry with an enamel surface, has done much to promote the use of enamel paints.

A great variety of enamel paints can be made. They may be made so as to be cheap or dear, quick or slow drying, according to circumstances; but, however they may be made, they must possess one characteristic, viz., that of drying with a lustre and with a hard surface. This condition can only be attained by using some resin, like copal, kauri, resin, &c., such bodies being the only ones which possess sufficient lustre and are capable of ready conversion into a soluble or liquid form, so that they can be spread by a brush over the surface of the object to be painted. The nature of the solvents which are used to dissolve these resins will depend upon the nature of the resin used, and also upon the character of the paint which is to be made. If it is to be a quick dryer, some volatile solvent must be used; while if a slow-drying enamel is wanted, a different kind of solvent is used. Simply to dissolve the resin in the solvent is, however, not sufficient, for then only a varnish is obtained, whereas a paint is required; the difference between the two kinds of materials being that, although both leave a lustrous surface, a varnish dries with a transparent coat, underneath which the real surface of the object is visible, while a paint dries with an opaque coat which hides the real surface of the object. To enable a paint then to do this, it must contain, in addition to the resin and the solvent, an opaque substance which is generally coloured, which opaque body is known as the pigment. The pigment to which the colour of the paint is due must have one property, that of insolubility in the solvent which is used in making the paint, or otherwise it will lose its opacity, and nothing but a coloured varnish will result. Hence it is that although a large number of coloured bodies are known, yet, owing to their property of solubility in solvents, they cannot be used for colouring enamel paints.

THE SELECTION OF PIGMENTS.

The best pigments to use are the mineral colours, lamp or vegetable blacks for black enamels, using a little spirit soluble aniline black when enamels are made with methylated spirit to give them a pleasant tone. Vermilion, red oxide, Indian red, and Derby red make good red pigments, vermilion and Derby red having, however, this defect, that being heavy they have an unfortunate tendency to settle to the bottom of the paint pot. Vermilionettes, royal reds, and other red pigments made from orange lead and the eosines, do not work very well in a methylated spirit paint owing to the solubility of the colouring matter in the spirit, still they are largely used when a bright and cheap red colour is wanted. Brunswick green, emerald green, and the green lakes made from the anilines do very well for green enamels. chrome yellows and oranges cannot be excelled for yellow and enamels. Brown enamels are best made from umber. White e are made with either lithopone, Orr's white, blanc fixe, gypsum white. White lead is unsuitable.

When quick-drying enamel paints are required, then solvents nature of methylated spirit, resin spirit, shale naphtha, or tur must be used Shale spirits and resin spirits make the cheapest while those made from methylated spirit or turpentine are nec dearer.

When slow-drying enamels are wanted, then, they must be m the nature of an oil varnish with melted resins, linseed oil, a pentine, coloured with the necessary pigment.

MANUFACTURING RECIPES.

The following recipes will serve to show how these various m may be used together to produce the various classes of enamels.

For a cheap, quick-drying enamel paint.—The base of this made from common resin 30lbs., turpentine 5 gallons, resin gallons, and linseed oil 1 quart. This may be coloured by addi ficient of any of the pigments named above. To make this pai best to break up the resin into small pieces and place them in a which can be covered over to prevent the evaporation of the The other ingredients are then added and the mixture placed side until the resin is dissolved, stirring occasionally from time t It is not necessary to heat it, though heat of course will facilita tion; but it is at the expense of the spirit, much of whi evaporate. When all the resin has dissolved, then the pigment added and the paint mixture sent through a grinding or mixing ensure thorough admixture.

The best quick-drying enamel paints are made, howeve methylated spirit as the solvent. A good base for such p made by taking 15lbs. of good orange shellac, 5lbs of manil 1lb. Venice turpentine, 1lb. raw linseed oil, and 10 gallons of lated spirit, mixing all together cold, and stirring well until a solved. To the varnish liquid so made, the necessary am pigment is added. For blacks, nothing is better than 5lbs. of ve black and ½lb. of spirit aniline black. For white, add 4 Orr's white. Bright reds may be made from vermilionettes reds. Any of the pigments which have been named above may to colour spirit enamel paints.

Slow-drying enamel paints are best made by adding the amount of colouring pigment. These varnishes are made by gum copal for best varnishes, or kauri, or resin for cheaper q The melted resin is then dissolved in hot linseed oil, and to the is added sufficient turpentine to thin it down to the requir sistency. The varnish so made is then ready for use Fo details reference should be made to one of the various work deal with varnish-making, such as Hurst's Painters' Colours, Varnishes. Opaque pigments should be used in this class of paints. The aniline or coal tar colours, owing to their insolubili and turpentine, are not very suitable for colouring oil varnis their use is best avoided. These slow-drying enamel paints ta 12 to 24 hours to dry, according to the varnish used. They good, firm, lustrous coat, which, in the majority of cases, durable than that which can be obtained from a quick-drying paint. They are, however, not so generally useful; as a quic paint is, on the whole, much more serviceable for use by the who often desire to handle objects almost as soon as they are pa

BLEACHING OILS.

[SPECIALLY CONTRIBUTED.]

THE class of oils which we have in view at the present mon the fatty oils which are obtained from animal or v sources; frequently these are more or less coloured, which col is caused by a variety of circumstances. In the case of vegeta sometimes the material from which they are expressed co peculiar colouring matter—this is the case with cotton oi again, there are nearly always small quantities of the peculiar colouring matter, chlorophyll, present in one or other of its is notably the case with the green olive oils. Palm oil,

account of its containing a bright orange colouring matter
t owes its characteristic colour. In the case of animal oils,
of the material has some considerable influence on the
ile, further, the oil may lick up something from the apparatus
which it is being treated. This discolouration of the oil has
ve before the oil is fit for use for many purposes, although
others for which the coloured oil may be used without any
whatever.

ıg oils is a very difficult thing to do, especially on the small
many and varied are the conditions which conduce to the
the operation that very often a process which works well
ıt or oil will fail with another, and a ton of oil can be bleached
thod, and yet the same method fails with a hundredweight of
As to laboratory experiments on bleaching, they are very
essful.

at difficulty in bleaching oils arises from the trouble there is in
thorough admixture of the oil with the bleaching agent which
ed, and also of exactly proportioning the amount of the latter
; for if too great an excess be used it often happens that the
es coloured by it to a greater extent than at first, and the
en becomes worse than the disease.

THE AIR AND CHARCOAL PROCESS.

y the very best general process for the bleaching of oils is to
ıtage of the bleaching property of a current of air combined
of animal charcoal. To do this in the best possible manner
wing process may be adopted. First of all, the oil is
about 100° F., and then mixed with weak sulphuric
de by mixing one gallon of ordinary strong sulphuric
two gallons of water, using four gallons of this weak
every 100 gallons of oil. The mixture is well stirred
and then heated to about 180° F., when it is allowed
down. After cooling the acid will be found to have
the bottom, and the oil will be freed from any animal or
matter and moisture by this process, while the oil itself will
tle affected. The next proceeding is to separate the acid
oil, which may be done in any convenient manner. A
air is then blown through the oil by means of a pump or fan as is
enient ; the blowing should not occupy more than two hours.
ıll cylindrical boiler placed on end is filled with dry anima
the pieces of which should not be too small. Lumps about
f a pea are best. At the upper end of the boiler is a manhole
g, while at the bottom is a hole for running off the clarified
oil treated as above described is now run through this boiler,
nts of which work best if heated to about 100 to 120° F.
a single passage through the charcoal may not effect the
ımount of bleaching, but a repetition of the passage will
do so. One advantage of this method is that the oil is not
y affected by the use of chemicals, and it is clarified from any
ter it may contain in suspension. One disadvantage is that
oal retains a large proportion of the oil, which, however is
y recovered in subsequent batches. The charcoal will serve
a large quantity of oil, and should it lose its bleaching
s they may be restored by first extracting the oil it contains
of benzoline or some such solvent, then heating the charcoal
ss in a closed retort.

THE SULPHUROUS ACID PROCESS.

good plan of bleaching oils, which may be adopted more
y with the green olive oils, is first to treat them with weak
acid as directed above, then to blow air into them which has
ssed through liquified sulphurous acid gas for some time, until
ıs become sufficiently decolourised. It is then washed with
ter to free it from sulphurous acid, the water allowed to settle,
clear oil used.

rocess may be modified as follows: The oil is treated with
phuric acid, and then after separating the oil and acid the
s run into a tank with from four to five gallons of liquid
e of soda for every hundred gallons of oil being treated ; air
lown through the mass, the oxygen of which, along with the
dioxide liberated from the bisulphite effecting the bleaching
.

The introduction of peroxide of sodium, which is chiefly made by the Aluminium Company at Oldbury, has placed a new bleaching agent at the command of the oil bleacher which will be found very serviceable in many cases. This product cannot, however, be used directly, or it would simply bring about the saponification of the oil, which is not desired. To use this product the peroxide of sodium should be mixed with about three times its weight of magnesium sulphate (Epsom salts). It must be kept in tight cases of metal or in bottles. From one to one-and-a-half pounds of peroxide of sodium will be required per 100lbs. of oil. The mixture of peroxide and Epsom Salts is mixed with water, and this is then added to the oil, the whole being warmed to about 130° F. and thoroughly agitated together for some time, then it is allowed to stand for the oil and aqueous liquor to separate, when the oil can be drawn off. As a general rule the oil will be found to be bleached sufficiently, a repetition of the process only as a rule being necessary when very dark oils are being treated.

THE BOILING OF LINSEED OIL.

[SPECIALLY CONTRIBUTED]

WHEN raw linseed oil is heated to from 450 to 500°F. with a small addition of litharge, red lead, manganse, or some other metallic salt, which by catalytic action can set up oxidation in the oil, it becomes heavier, dries up more quickly, and leaves behind a coating which is of a more highly lustrous character than is the coating from raw linseed oil. On these phenomena is based the production of what is known as "boiled" linseed oil. The process of boiling may be carried out in two ways—the first or oldest method is by direct fire heat in iron boilers, the second or newest process is by means of steam heat in suitably-constructed boilers. In no case is the process at all a difficult one, and yet care must be exercised if a satisfactory result is to be obtained.

Boiling by Direct Fire Heat.—This is carried out in an iron boiler made like a common wash-house boiler, or, better still, of boiler plate with cylindrical sides and a hollow bottom riveted on the sides, as the bottom is the part which is usually worn away long before the sides are, this method of construction affording an easy way of repairing by putting new bottoms when required. The boiler is set in brickwork, so that the fire comes only in contact with the bottom of the boiler ; a flue running round the lower third of the boiler serving to carry the heat in an efficient manner to the contents of the boiler. The boiler should be built against the outer wall of the oil-boiling shop, so that the fire-place is fed from the outside, this precaution being necessary for the purpose of avoiding fires. Oil has sometimes a nasty trick of boiling over in an unexpected fashion, and if the fireplace is inside, the oil would be likely to find its way into it, with the result that a fire would occur. The boiler should have a capacity at least twice as great as the quantity of oil it is desired to boil in it. Above the boiler ought to be fixed a ventilating hood to carry off any fumes which may be produced, and which, if allowed to accumulate in the boiling-shed, would inconvenience the workmen.

The oil to be boiled is run into the boiler until the latter is about half full, the fire is lighted, and the oil slowly heated. It should be closely watched, because it is in this preliminary heating where the greatest risk of boiling over occurs. Should this happen, the fire must be drawn immediately, and the oil quickly ladled out into another boiler, where it is kept until it has got cold, when it can be restored to the boiler, and the fire again started. A thermometer placed in the oil is watched and the firing regulated so that the heat does not exceed 500°F. There is no advantage to be gained in heating above this, while further there is the disadvantage of the oil becoming charred and thereby discoloured. After being kept about two hours at this heat, during which time any water which the oil may contain will have been driven off, the driers are added in small quantities at a time in proportions according to the use to which the resulting boiled oil is to be put. Of litharge about 5lb are required for a ton of oil, of red lead about the same amount, of manganese half these quantities are sufficient for an ordinary boiled oil for painters' use, while for making oilcloths or linoleum larger quantities are added. The addition of the litharge should extend over a period of two to three hours, the oil being stirred up from time to time during the interval ; after the whole of the drie

has been added, the boiling should be continued for at least two hours longer, although for a quick drying heavy-bodied oil three or four hours' boiling may be given with advantage. At the en of that time the fire is drawn and the oil left to cool down, after which it is run into storage tanks to settle, the clear oil is drawn off for use, while the turbid "foots" is run off for other purposes.

Steam Boiling.—This method of producing boiled oil was introduced by C. W. Vincent, and has become largely used, it giving, as a rule, a paler oil than can be obtained by the fire process. It is carried out in a steam-jacketed iron or copper pan; arrangements are provided for agitating the oil during the operation, while a current of air can be sent into the oil during the operation. Into the pan is put the oil; the steam, which is used at a pressure of about 40lb. is sent into the jacket and the oil heated until a peculiar sickly smell is evolved, the agitator being at work the whole of the time. A small quantity of driers is now added; these are preferably some compound of manganese. The borate is the best, although Hartley recommends using the linoleate, and air is blown through the oil. From time to time more driers are added until the required quantity has been used, the working is carried on for four hours longer, when it is ended and the oil is run off into the storage tanks to settle and clarify.

When lead is used as a drier, some of it passes into the oil in the form of lead linoleate, while some free linoleic acid is formed and acrolein evolved. The lead linoleate imparts to the oil the property of drying with a glossy coating; at the same time it prevents the oil from being used with some bright pigments like cadmium yellow, ultramarine, vermillion, and antimony orange, which contain sulphur, without some risk of their becoming discoloured. When used for bright colours in towns the sulphur, which is usually present reacts with the lead which is in the oil, causing them to become of a brownish hue. Boiled oil which contains lead when exposed to the air gradually becomes brown. These are some disadvantages which attach to the employment of lead-boiled oil.

When manganese is used as the drier, this also forms manganese linoleate, which passes into the oil, but does not impart to it any property of becoming discoloured by use in any way; it may therefore be employed with all pigments without fear of any deterioration of beauty of tint. Then, again, there is considerably more oxidation of the oil with a manganese drier than there is when litharge has been used, so that a manganese boiled oil dries much quicker than a litharge boiled oil.

Hartley and Blenkinsop's Process.—A new process for making a very pale boiled oil has been devised by Messrs. Hartley and Blenkinsop. This consists in first treating the oil with dilute sulphuric acid; an acid containing about 30 per cent. of actual sulphuric acid is the best to use, as at this strength it dehydrates the oil, but does not carbonise it at all. After standing to allow the oil and acid to separate, the clear oil is drawn off and is ready for the next process. This consists in treating the oil with a solution of manganese linoleate in some hydrocarbon spirit. Care is taken in not adding too much of this material. It exerts a bleaching action on the oil, which becomes of a very pale colour, but if too much is added then further oxidation of the oil may occur, and this is not desirable. Air is blown into the oil at the same time. This materially assists in the bleaching and accelerates it considerably. By heating to about 250°F., adding just enough manganese linoleate and blowing-air through the oil, the latter becomes bleached and then decomposed as in the ordinary boiling process, increases in density, and acquires drying properties, while the colour is quite pale. The oil so prepared is excellent for use as a paint oil, dries well and rapidly, and can be mixed with all pigments without leading to any discolouration whatever. Whites retain their purity of tone unchanged, a feature of no small advantage.

RECOVERY OF SOAP AND FATTY MATTERS FROM WASTE SOAP LIQUORS.

[SPECIALLY CONTRIBUTED.]

In many industries, particularly in the woollen trade, very large *quantities* of soap are used for the purpose of cleansing or scouring *various bodies, fabrics, etc. It is scarcely possible* to enumerate all the instances in which soap is so used in the industrial arts, b printing it is used after printing to clear the cloth from the agents which have been used in applying the colours to In the woollen industry, soap is very largely used for the extracting the natural oil and dirt from the raw wool befor ture, while the woollen cloth or yarn is also treated with so out the oil which has been added to enable the wool to spin properly. Very large quantities of soap are so consumed, could be recovered in a form in which they could either b again, or be sold at a profitable rate, then the cost of the n would be much reduced. At one time all the waste soap produced were allowed to run to waste, and some are even detriment of the river courses into which they flow. Of some attention has been paid to the recovery of the soap matters such liquors contain, and the action which the Irwell Joint Committee are taking to purify the waters of t will compel more attention to be paid to this matter in the fu

Several processes are in use. One method consists in t waste waters into a tank, heating by means of a steam pipe, t sufficient dilute sulphuric acid to decompose all the s present in the liquors. The fatty matter is separated out, a on the top of the water in the tank, and is skimmed off and one side. The aqueous liquid is now passed through filters any matters that cannot well be skimmed off, and the clar can then be run away into the nearest watercourse. The m matter now remains to be treated. This is best done by fi the fatty matter in coarse linen bags, and pressing under a press—best under the influence of a little heat, so that the f can flow freely from the bags, leaving behind the various so ties. The fat so obtained can be dealt with in various w consists practically of nothing beyond the fatty acids of soap, re-converted into soap by treatment with sufficient caustic soc soap so made may be used in scouring fresh material. C matter, if it contains some impurities such as the natural woo be sold to grease distillers or lubricating grease makers at a p will leave a profit on the cost of extraction. The residue ir bags is best used as a fuel.

The proce s sketched above works fairly well with good so but where such contain a good deal of colouring matter, a times the case, then this colouring matter is not separated left in the effluent which flows away; and this would, of cou permitted by the authorities if the colour was not perfectly i To avoid this defect, the following process may be adop waste liquors are run into a tank; to the contents is now adc alumino ferric and calcium chloride in just sufficient amount t tate out all those constituents of the liquor that are capabl precipitated. It is difficult to give any particulars of the qu the precipitants which are required, as these quantities wi different works, and even at the same works at different tim should be taken not to add a large excess of the precipitan excess will find its way into the effluent waters and be lost, cost of the process will be increased. All the fatty matter, e waste liquors will be precipitated in the form of insoluble alumina soaps, which are separated by allowing to s by filtering. A very convenient form of mechanical filter William Birch, of Lower Broughton, Manchester, which occupy much room, and is capable of dealing cheaply with larg ties of liquor. Or other filters may be employed. With the of due care in adding only just the amount of precipitant (and this can be readily ascertained by one or two small expe the effluent from the solid matter will be colourless or almos is quite pure enough to run away down the drain.

It is scarcely possible to give in a short article full details of cess for treating waste soap liquors and recovering the valu matters which they contain. This arises from the very varia acter of such liquors, a fact which has been previously allude the above hints worked out intelligently will place the purifi such liquors on a proper basis, though it must not be forgott is always advisable to consult an expert as to exact details and cess for carrying out special work, as it pays in the long run to

MECHANICAL FILTRATION OF WASTE WATERS.

TH increased attention to the prevention of river pollution the means for purifying sewage and works effluents have also Filter presses have been used with more or less success, as her filters like Birch's, but the filters which seem to find most are those in which the filtering medium is granular and is auto-ly cleansed. One of the latest and best filters of this kind, ing as it does the essential features of a perfect filter, is that ced by Messrs. L. H Bristowe and Co., of 47, Victoria-street, , S.W., known as

THE RIDDELL FILTER,

ich we have seen in operation, working successfully on sewage rd. Excellent results have been obtained in America with this nd it seems likely to find even greater favour in this country. f simple construction, a few words will be quite sufficient to its action, as the cuts largely speak for themselves. The raw or other water to be filtered after having been treated with the e chemical re-agent, is forced into the pipes marked (in fig. 2), ered water," through the eight radial arms into the main body of r, and it is thence forced through the filtering material (usually sharp sand) and leaving its impurities entrapped in the sand, through the pipes marked "outlet filtered water," having pre-passed through a series of strainers not shown in the illustration. accumulation of the precipitate fills up the interstices of the greater pressure is required to force the water through, this ed resistance is registered on the gauge which thus shows auto-ly the condition of the filtering material, and eventually points necessity of washing the sand. This operation is performed in inutes by turning the necessary valves. The valves leading to e marked "wash-water to sewer" is opened, and by manipulating r-way-cocks pressure is applied to the cylinder which terminates ight radial arms, and these are forced down through the filter-terial. At the same time clear filtered water is forced upwards ne of the other compartments, throwing the whole bed into sus-n. In dealing with sewage where aëration is desirable, air is wn through the radial arms, which in their passage through the ith the water spurting out in powerful jets at every possible as shown in fig. 3), subject every particle of sand to the most friction, g them one the other osening all t. An in-g rod shows the radial ave reached est stratum d, and the ay-cock is urned, and sare forced ls, carrying em all the hich pours the wash-pipe. The arms are aised and d until the ater runs when the on of fil-is again ed. The ater, which ts to 0·5% water filtered, is run, as a rule, into alternate tanks, owing to the action of the chemical reagent, the solid quickly precipitates and falls to the bottom, while the surface water is syhponed oft and returned to the filter through a by-pass. The residue in the tanks is then a heavy semi-fluid, and can be readily dealt with. Though suitable for treating all kinds of works effluents, this filter is specially suited for the purification of wool washings, as the bulk of the waste water is sent into the river perfectly clear and *neutral*, while the fatty matters are obtained in a concentrated

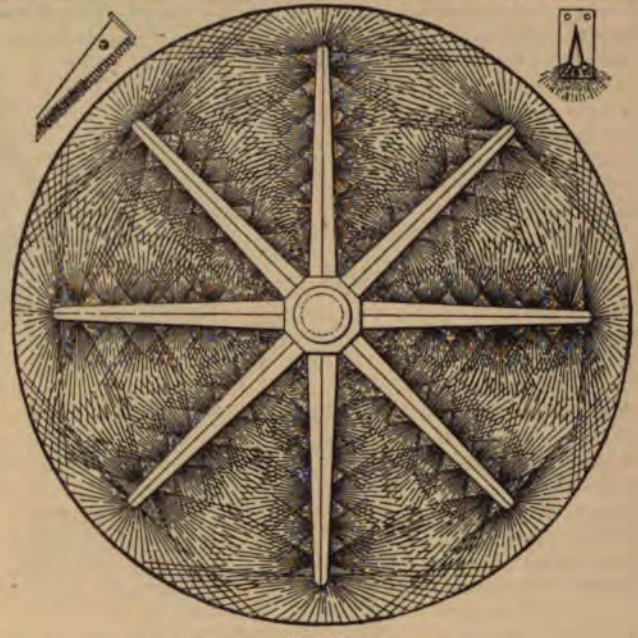


FIG. 3.

form there by facilitating recovery. How effective these filters are the following analyses very clearly indicate, the works effluent having been coagulated with a minimum quantity of aluminoferric and passed through the filter at the rate of 4,000 gallons an hour, which in this case is the normal condition of working. *Wool-washing Waste.* Parts per 100 000 : Total solids, 864·5. Albuminoid ammonia, 2·5. Absorbed oxygen, 181·0. *The Riddell Effluent* was absolutely free from suspended matters, and contained : Total solids, 139·0. Albuminoid ammonia, 0·12. Absorbed oxygen, 5·6 These results convey more than any lengthy dissertation could, especially as they were obtained from a sample taken haphazard, and are therefore representative. The plant is all but perfectly automatic and self-contained, even to the addition of the precipitant, any class of which may be used, and those contemplating the installation of a plant, either for treating sewage or works effluents should not fail to give these filters an inspection before making a final decision, as they compare favourably as to cost with any other efficient system.

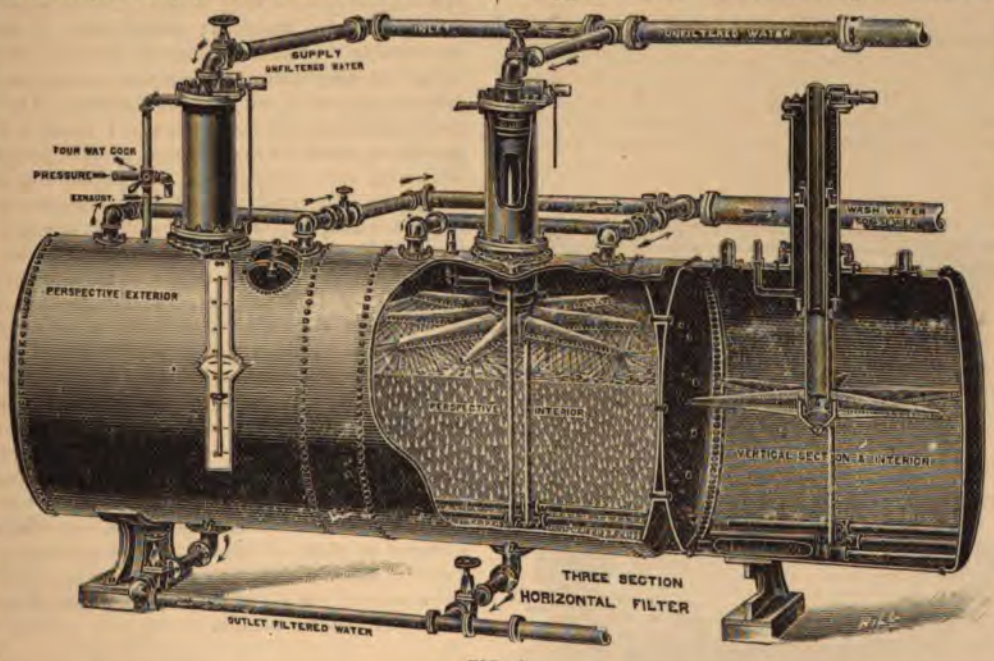


FIG. 2.

We also illustrate two other filters of a somewhat similar type, though they differ in many respects. Fig. 4 represents the

TORRENT FILTER

of the Pulsometer Engineering Company, Limited, London, S.W. This filter, which has a good reputation in connection with the filtration of boiler-feed water, consists of a filter bed of sand or charcoal. The cleansing operation is effected by a reflux current of water (the dirty water being subjected to downward filtration), assisted by compressed air, the steam air injector being shown in the illustration. The filters have given satisfaction in dealing with works effluents, and we understand that their application to the filtration of sewage is just now receiving closer attention.

THE WARREN FILTER

is shown in Fig. 1. Here again downward filtration through sand is the principle adopted. The removal of the sludge by the channel **N** and the scouring of the bed, being accomplished by a current of water passing upwards through the filter, the bed being loosened by a rake-like stirrer. Though pre-eminently suited for cleansing water for the use of paper-makers, bleachers and others, this filter has been applied by Mr. F. Nell, of 16, Mark Lane, London, E.C., to the purification of

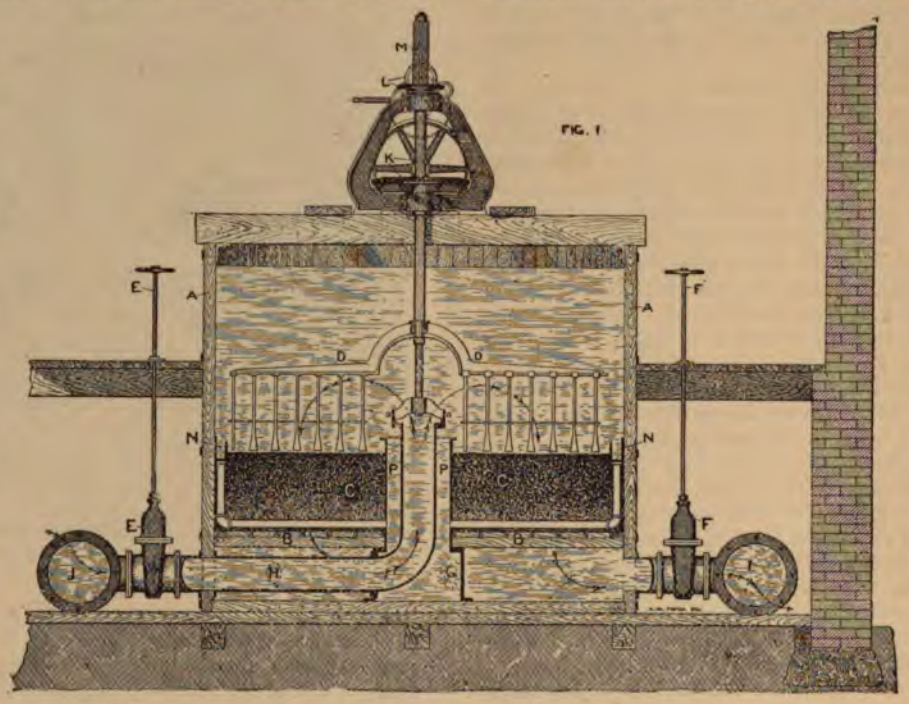


FIG. 1

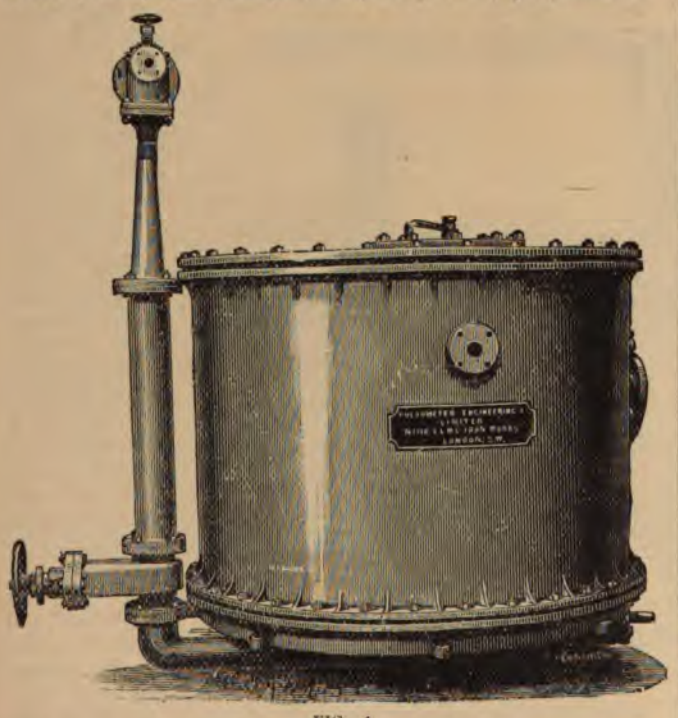


FIG. 4

waste liquors, though so far we are not aware that it has been employed to deal with sewage.

Our Book Shelf.

OILS, FATS, AND WAXES. By C. R. Alder Wright. 524 pp. Index 144 illustrations. London: Charles Griffin and Co., Ltd. 1894.

This work is divided into twenty-two chapters, in turn sub-divided into seven classes which deal with the composition and nature of oils butters, fats and waxes; the physical properties of the same, and the chemical properties. The fourth clause deals with the processes of extracting and bleaching oils and fats. Their classification, uses and forms of adulteration constitute the next clause, while the last two deal respectively with the candle and soap industries.

The description of the apparatus for making physical tests of oils is full, comprehensive and well illustrated.

Though mineral oils are not supposed to be included in this work the flash-point of oils is carefully dealt with. Most, in fact, we might say all the well-known chemical tests for oils are described, including the re-actions constituting the tests known as Hehner's, Reichert's, Hübls, Benedikt and Ulzers and Zeisel's. In connection with the extraction and bleaching of oils the work assumes a more technical nature and this clause is freely illustrated; though most of the illustrations will be tolerably familiar to readers of technical journals. With regard to the bleaching of oils, nothing very striking presents itself, and the practical element is not very predominant. The clause dealing with the classification and uses of fats and waxes is very interesting and instructive, especially in connection with the preparation of drying and lubricating oils. Much useful information may be gathered from the chapter on adulteration, though the description of methods of detecting adulteration is so brief as to be almost scanty. The author shows his familiarity with the candle and soap industries in his treatment of the same in the last two clauses of the work, occupying as they do almost a third of the volume. There are but few varieties of soap with the exception of special "lines" which are not described, while the chapter on the general chemistry of soap will doubtless constitute a valuable source of reference to many in the future. The recovery of glycerine from soap leys, a matter of considerable interest, also receives some attention, additional information concerning which will no doubt be acceptable to many. In short, the work constitutes a standard compilation which, dealing with all the main branches of the various subjects, is quite distinct from works of the text-book stamp, and will be found by manufacturers to be a useful and reliable book not only for reference on points of science, but manufacturing processes as well. There is, however, even now, room for a practical work dealing with this branch of science, though the present work has brought us a step nearer to this consummation.

PIGMENTS, PAINT AND PAINTING, by George Terry. 381 pp. Index. 49 illustrations. London: E. & F. W. Spon. 1893.

This work is intended to supply in a handy manner, and at accessible price, information by means of which a practical painter may supplement the knowledge gained in the class-room and worksho

and also refresh his memory when necessary. The work is divided into fourteen chapters, and describes the properties, manufacture, and uses of the chief black, blue, brown, green, red, white, and yellow colours, as well as vehicles and dryers. Under blacks the manufacture of several classes of lamp black is described, and the various plants illustrated. Blues are well described, Indigo being handled in a practical manner, the chapter being full of a number of useful receipts for the preparation of various blue colours. Ultramarine under this heading naturally receives a good deal of attention, though it is somewhat surprising that the author should second the opinion which he quotes from an extraneous source, that ultramarine is perhaps the most beautiful pigment known. Beautiful as it undoubtedly is, its beauty is often also lamentably evanescent. Much of the information regarding ultramarine seems however to have been compiled, in most cases reliable sources of information having been drawn upon. In connection with greens there is a good deal of useful information, though it is noticeable that little if anything is said about the danger of using arsenical greens for certain purposes. Under reds, vermillion is accorded a somewhat lengthy review, chiefly historical; although in the opinion of the author the old pigment is being displaced by newer reds, presumably vermillionettes. One of the best chapters in the work is that on whites, in which a very good all-round description of the various white lead processes is given, including the processes of Condy, Gardner, Hannay Lewis, and MacIvor, and also the Italian and Dutch processes, Although so much attention is given to the Gardner process, it is singular that one hardly if ever sees the fact that this process is being worked in a quiet way in the East of London—mentioned for the benefit of those who may be interested. Lakes constitute a separate chapter, but the information such as it is might as well have been incorporated under the headings of reds and yellows. A chapter is devoted to luminous paints, which is interesting and practical. The chapter on the examination of pigments borders on the humourous, since "Brevity is the soul of wit," and this chapter is brevity itself; consisting of about 600 words. The work is described as a practical book for practical men, and certainly those who consult this chapter need be practical. The next chapter however affords a striking contrast, being full of useful information upon vehicles and dryers, especially the latter; while the last chapter dealing with painting is also a very good one. Taken all round the work satisfactorily accomplishes its end, and written for the trade should meet with the appreciation which it deserves, being in many respects a work of unique conciseness and practicability.

CHEMICAL PLANT FOR JAPAN.—We learn that Messrs. Robert Daglish and Co., of St. Helens, have a large chemical plant in hand for Japan, including a 12ft. 6in. diameter by 25ft. long revolving black ash-furnace, with engines and gearing, coupled horizontal Weldon blowing-engines, chlorate of potash plant, several pumping-engines for liquors and water, a large quantity of saltcake and caustic pots, neutralising well gearing, still liquor and other pumps, grinding machinery, steam hoists, &c. This plant would be capable of giving a turn out of about 200 tons of caustic soda and 200 tons of bleaching powder per week, besides chlorate of potash.

NOTICES.

LONDON AGENTS

Booksellers and Newsagents may now obtain supplies of
THE CHEMICAL TRADE JOURNAL
From
MR. JOHN HEYWOOD,
2, Amen Corner,
On usual trade terms. Paternoster Row, E.C.

FOREIGN REMITTANCES.

Owing to the inconvenience created by the various ways in which foreign subscriptions are remitted, we respectfully beg to inform subscribers that a *Crossed* MONEY ORDER is the most satisfactory method of remitting, both for them and ourselves. In the case of a Money Order, a letter advising us of same should always be sent, otherwise, owing to post-office formalities, much delay in tracing and acknowledging foreign remittances is inevitably entailed in this country.

Correspondence.

ANSWERS TO CORRESPONDENTS.

C. A. (Turin).—Will write you shortly.

R H. B.—They have been sent.

F. N.—We will send you the information in the course of a post or so, the extra pressure just now has delayed the matter.

H. P. & Co —In the issue of February 3rd, prox.

W. O, A F., H.S., AND OTHERS.—The business pressure, as well as the shortness of space resulting from the task of getting out the special number this week, has caused your queries to be unavoidably delayed till next week.

THE GAS SUPPLY OF LONDON.

THE quality of the gas supplied to the City of London for the week ending January 6th, 1894, was good. According to the report of Mr. W. J. Dibdin, chemist and superintendent gas examiner to the London County Council, the tests made at the various testing stations showed no deficiencies in illuminating power. The following figures have been prepared from the report, and show the average composition of the gas calculated on the mean test:—

Company.	No. of districts tested.	Illuminating power (in stand. sperm candles). Mean average.	Sulphur. Grains in 100 cb. ft. Mean average.	Ammonia. Grains in 100 cb. ft. Mean average.	Sulphuretted hydrogen.
Gas Light and Coke Co.	14	16·19	10·73	0·32	Nil.
South Metropolitan Gas Co.	5	16·42	10·16	0·26	Nil.
Commercial Gas Co. .	2	16·25	8·95	0·30	Nil.

The standard gas supplied by these companies should have an illuminating power of 16 sperm candles, and contain not more than 22 grains of sulphur and 4 grains of ammonia per 100 cub. ft. of gas, on an average of three days, with a pressure of one inch between sunset and midnight, and six-tenths of an inch between midnight and sunset.

Market Reports.

MISCELLANEOUS CHEMICAL MARKET.

There is a good active demand for all products of the alkali trade, both for near and forward delivery. Spot and forward prices for caustic soda are firm, and though these prices are subject to variation according to the market, the following may be taken as the average prices, viz:- f.o.b. Tyne, 77%, £11. per ton; f.o.b. Liverpool, 74%, £10. 5s.; 70%, £9. 5s.; 60%, £8. 5s.; cream, 60%, £8. per ton, 10-ton lots and upwards. Concessions are made for home consumption for contracts extending over the year. Bleaching powder is in good request for prompt delivery, at £7. 15s., softwoods, on rails, and £8. 5s., hardwoods, f.o.b. Soda ash continues weak, and prices all round are in buyers favour. Saltcake is still most difficult to move at any price. Chlorate of Potash steady at 7¾d. soda firm, at 8½d. to 8¾d. Soda crystals move readily. Prices are: £2. 10s. bags, and £2. 16s. 6d. casks, rails, makers' works. Owing to recent arrivals the market in nitrate of soda is easier, and there are sellers at £9. 5s. to £9. 7s. 6d. c.i.f. Recovered sulphur quiet at £4. 2s. 6d. Sulphate of copper finds a better market, and prices are stronger. Acetates of lime are rather easier: brown £6. 15s., grey £10. 10s. per ton. Acetate of soda is also lower in price for prompt delivery. Acetates of lead appear to be declining in price; foreign is offered under the Convention rates, and English makes can be obtained at figures very favourable to buyers. Yellow prussiate of potash steady, and without change in price, at 10¾d. Borax quiet, at £26. 10s. to £28. per ton, according to quality. Oxalic acid in better request, at 3¼d. per lb. Ammonia salts strong and scarce. Grey muriate is selling at £24. Carbonate, 3¾d. per lb., and salammoniac, at 37s. and 39s. per cwt. White powdered arsenic continues very firm, and stocks are firmly held, £13. 15s. nett, at Garston is value to-day.

REPORT ON MANURE MATERIAL.

During the week a fair business has been doing at slightly hardening prices, but in the main the tendency of buyers is to hold off in regard to supplies not immediately wanted.

The quotation for 75/80% Florida phosphate rock is 8¾d per unit, c.i.f. to United Kingdom ports; but the available supply of this grade for 1894 shipment is getting into small compass, very heavy sales having been made for Continent and the Baltic. There is plenty of 73/75% grade to be had at about 1d. per unit less money, but buyers

don't take very kindly to it. The raisers of South Carolina River rock, having effected a reduction of the royalty from $1 to 50 cents per ton, have now resumed operations, but for some time they are likely to be engaged upon the execution of outstanding contracts, so that a return to anything like former level of prices cannot be looked for in the near future. No doubt the smaller royalty will lend encouragement to a larger output than formerly, but buyers, when considering their purchases for 1895 season, will do well to remember that there is a good deal of lost time to be made up by the raisers. The price of Peace River rock will be mainly determined in relation to that of South Carolina.

A 700-ton cargo of Rosario bones, December sailing, has been sold, it is understood, at about £4. 16s. 3d. per ton for United Kingdom. Re-sales of crushed Kurrachee bones have been made at £5. 1s. 3d. per ton, ex quay Liverpool. There is nothing reported for shipment. £5. 2s. 6d. is now asked for fair average quality Bombay bone meal, December-February steamer shipment; and £5. 5s. paid for No. 3 grist, for shipment. On spot £5. 5s. is asked for Bombay H S.E. mark. Charring bones inquired for at £4. 10s. to £4. 12s. 6d, ex quay Liverpool. On spot, owing to small supplies, nitrate of soda advanced to 9s. 6d. per cwt. for fine quality, and 9s. 4½d. for ordinary. Due cargoes are worth about 9s. 3d. per cwt.

TAR AND AMMONIA PRODUCTS.

The position of benzol is unaltered, with 90's at 1s. 5d., and 50/90's 1s. 6d. Crude naphtha is easier at 8½d., and continues to rule firm. Solvent naphtha keeps about the same, with a tendency, perhaps, towards the lower quotation of 1s. 3½d. Anthracene still keeps at 1s. 1d. for 30 A and 9½d. for B. Pitch continues firm at 29s. to 29s. 6d, f.o.b. east coast. Crude carbolic acid maintains its position well, and current value is quite 1s. 8d. for 60%.

Sulphate of Ammonia is firm, with a rising market. Quotations are: Beckton and London £13. 10s., Hull and Liverpool £13. 10s., Leith £13. 10s. to £13. 12s. 6d.; forward business is rather quiet.

THE METAL MARKETS.

LONDON, WEDNESDAY.—Pig iron dull: Scotch warrants closed at 42s. 11d., Middlesbrough 35s. 5d. cash, and hematite 44s. 11½d. Copper, steady: Chili bars, G.O.B.'s and G.M.B.'s, closed at £41. 16s. 3d. to £42. 1s. 3d, cash, and £42. 3s. 9d. to £42. 8s. 9d. three months. Tin, quiet: Straits closed at £71. 10s. to £72. cash, and £72. 7s. 6d. to £72. 17s. 6d. three months; Australian, £71. 17s. 6d.; English ingots, £76. 10s. Lead active: Spanish, £9. 7s. 6d. English, £9. 10s. to £9. 12s. 6d. Silesian spelter: ordinary, £16. 5s. to £16. 7s. 6d.; Nickel, 1s. 8½d. Antimony, £37. Quicksilver: First hands, £6.; second hands, £5 18s. *Copper shares* firmer: Cape, 1⅜ to 1½.; Copiapo, 1¾ to 1⅞. Libiola, 3⅛ to 3¼. Mason and Barry, 2 9/16 to 2 7/16. Rio Tinto, 14⅜ to 14½. Tharsis, 4¾ to 5.

WOLVERHAMTON, WEDNESDAY.—Being the week succeeding quarterly meetings, the usual confirmation of orders booked last week took place to-day, and, in addition, a fair amount of new business passed. Crude iron very firm; best Staffordshire, 57s. 6d. to 60s.; medium, 45s; and common, 37s. to 40s. Midland brands again scarce. Finished iron rather quiet; common bars £5. 15s., and merchant sections £6. 5s.; black sheets doubled £7, and galvanised corrugated 10 guineas. f.o.b. Liverpool. Steel fairly brisk; Staffordshire safe plates, £7. 10s.

GLASGOW, WEDNESDAY.—Market steady, with small business. Scotch done at 42s. 10½d., and 42s. 11d. cash, also at 43s. 1d. and 43s. 0½d. one month; closing with buyers at 42s. 11d. cash, sellers ask ½d. higher. Cleveland done at 35s. 4½d. and 35s. 5d. cash, also at 35s. 6½d. and 35s. 7d. one month; closing with buyers at 35s. 5d. cash; sellers ask ½d. higher. Cumberland hematite done at 45s. 1½d. and 45s. 2d. one month; closing with buyers at 44s. 11½d. cash, sellers ask 45s. Middlesbrough hematite closes with buyers at 43s. 6d. cash, sellers ask 43s. 9d.

LIVERPOOL OIL AND COLOUR MARKET.

WEDNESDAY.

OILS.—Palm oil is somewhat scarce and prices are firm, Lagos having been sold at £23. 10s., per ton; Saltpond, £21. 5s.; Benin, £23., all transit. Olive is steady in price but sales are restricted. Linseed is firmer at the reduction, 20s. 9d. to 21s. 6d per cwt., being value for Liverpool makes in export casks. Cottonseed is firm in price and supplies being rather short Liverpool refined is quoted 21s to 22s. per cwt. Castor oil is steady, both for spot and forward, good seconds Calcutta selling on spot at 2½d. First pressure French is slightly easier, at 2 5/16d. ex-quay, but sells at 2⅝d. per lb., from store. Tallow is still very scarce and consequently firm. Resins are steady at fairly good demand. Spirits of turpentine are slightly easie 22s. 9d. per cwt., but enjoy a fairly good inquiry at this fi Petroleum is on the whole steady, though the market is rather slu with American, 4¼d. to 5¾d. according to quality; and Ru refined 3¾d. per gallon.

COLOURS are steady without alteration in p Ochres: Oxfordshire, common, £10., medium, £12., best, Derbyshire, common, 40s.; medium, 50s., best, 60s.; Welsh, 70s., seconds, 50s., and common, 18s.; Irish, Devonshire, 4 45s.; French, J.C., 55s. to 60s.; M.C., 65s. to 67s. 6d. Un Turkish quiet; Devonshire, 50s. to 55s. White lead, red lead, oxide of zinc unchanged. Venetian red, £6. 10s. to £10. Co Prepared oxide, 9s. 9d.; black, 9s.; blue, 6s. Zaffres: N 3s. 6d.; No. 2, 2s. 6d. Oxide of iron: Common, £6.; med £10.; finest, £20. Zinc oxide, £23. to £25.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, TUESD.

Since last writing there was one transaction in sulphate of amm done at £13. 5s, but this has been accepted as simply a blunde the part of the seller, the market not having warranted any conce On the contrary, it is a trifle firmer, and although the quotation below is the same as a week ago, the true mark is nearer £13 than £13. 7s. 6d. This is for spot. The forward market has doing hardly anything during the week.

In general chemicals there is no change of value to report (exc nitrate of soda which has made a rise), but it seems the case tha tone of business has experienced some slight improvement, causti ing in fair request; though bleaching powder rather inclines to incr quietness. Bichromate of potash and bichromate of soda rem combination prices, but the demand leaves room for improvemen

Deliveries of burning oil are still of full volume, and some of th works are bared of reserve stocks, and even in arrears. Press likely to begin to take off next month. Solid paraffin (scale) is sc able to maintain the late quotation, low as it is. This is caused c by increased imports from America, and consequent augmented on the market.

Chief prices current are:—Soda crystals £2. 7s. 6d. nett, Tyne ash £3. 17s. 6d. nett, Tyne; white alkali 48/52° £4. 10s. to nett, Tyne; alum in lump £5. nett, Glasgow; caustic soda, whit £10. 10s., 70/72° £9. 5s., 60/62° £8. 5s., and cream 60/62° all nett, Liverpool; bleaching powder £7. 15s.. nett, T saltcake, 20s.; borax, English refined, £30., and boracic £37. 10s. nett, Glasgow; bicarbonate of soda, 5-cwt. casks, £6. and 1 cwt. casks £6. 15s. nett, Liverpool; bichromate of p 4½d. nett, for Scotch and English deliveries (for export, 4¼d. f.o.b. Glasgow); bichromate of soda, 3¾d. nett, for Scotch and E deliveries (for export, 3½d. nett, f.o.b. Glasgow); chlorate of potas less 5%, Liverpool; nitrate of soda, 9s.6d to 9s. 9d.; sulphate of amm £13. 7s. 6d. to £13. 10s. od. prompt, f.o.b. Leith; salammoniac and second white, £39. and £37. nett, any port; sulphate of c £15. 15s. less 5% Liverpool; paraffin scale, hard 1⅞d., and soft per lb.; paraffin wax 120° semi-refined 2⅜d.; paraffin spirit (na 4½d. per gallon; paraffin oil, burning, standard No. 1 grad at works, for Scotch buyers (English sales, ½d. to ¾d. l ditto (lubricating) 865° £4. 7s. 6d. to £4. 10s., 885° £4. to £5 and 890/895° £5. to £6. Week's imports of raw sugar at Gre were 46,139 mats.

HULL PAINT, OIL, AND COLOUR REPOR

TUESD

The second week of the year does not hold out equal promise first week, the imports and exports both being under the same year ago; still nothing very serious. The public here refuse rushed into a panic over any adverse influence arising from the op of the Ship Canal at Manchester, especially if the North-Eastern way persist in their energy to retain and cultivate traffic to newly-acquired docks. The principal imports here to date are: oil, 177 tuns, against 778 tuns same time a year ago. Rape oi casks, against 344 casks. Oilcakes, 1,483 tons, against 1,154 Tallow, 2,358 cwts., against 4,362 cwts. Turpentine, 20 b against 32 barrels. The *Lucigen* with a cargo of petroleum of 1,3 gallons is due in Hull on the 29th inst. Linseed oil closes firm 7½d. naked, and same value for Jan.-April or May-Aug. Las months quoted at 19s. naked. Export for the week has bee small, being 977 cwts., against 6,941 a year ago. Cotton-oil, r quiet, with sellers at 18s. 7½d. naked spot, 18s. 9d. Jan.-Apr 19s. 9d. May-Aug. Export of cotton oil for the week shows a d improvement, the exports reaching 8,051 cwts., against 3,363

in good request, continues dearer, £17. 10s. to £19. 10s. per erring oil, £16. Sod oil in good demand, £15. to £17. per live oil continues in fair request, with limited stock. First castor oil, 2⅝d. per lb. Turpentine, 23s., barrels free. Pale rom £21. per ton; anti-friction grease from £6. per ton; brown rease, £8. per ton. Engine and cylinder oils from 1s. to 2s. on.

ES.—Linseed cakes quiet but firm, 95 per cent. pure, £8. 15s. 17s. 6d.; ordinary, £7. 5s to £7. 10s.; Russians, £8. 10s; £8. 15s. Cotton cakes in steady request, with firm market; kes, £5. 5s.; second quality, £5. Rape cakes: East India, ; Black Sea, £4. per ton,

TS.—This trade continues to improve. Prices are:—Oxide from £9. to £18. per ton; oxide of zinc, £22. per ton; red, dry, £6. to £10.; lime blue from 16s. per cwt. White in good demand, with prices improving. Common black £5. 10s. per ton in barrels; oak varnish from 5s. 6d per gallon. ixed paints, in lever tins, various sized tins, from £26. per ton.

TYNE CHEMICAL REPORT.

TUESDAY.

emicals prices show very little alteration. Caustic soda has rather better demand, at £9. per ton for 70%; £10. 10s. to 5s. for 76/77%. Bleach, £7. 10s. to £7. 15s. per ton. quiet, at £4. 2s. 6d. per ton. Other prices as under:

hing powder, softs, £7. 10s. per ton, nett; hards, £7. 15s. per ton, austic soda, 76/77%, £10. 15s. per ton, nett; 70%, £9. 5s. per ; recovered sulphur, 2cwt. bags, £4. 2s. 6d.; per ton, nett; soda , £3. 15s. per ton; 52%, £4. 2s. 6d. per ton; 56%, £4. 10s. per t; alkali, 36%, £3. per ton, nett; white alkali, 48%, £4. 10s per %, £4. 15s. per ton; 52%, £5. per ton, nett; hyposulphite of soda, rt. casks, £5. per ton; ditto, in 1cwt. kegs, £5. 10s. per ton, nett; f soda, 75° Tw., £2. 15s. per ton, nett; 100° Tw., £3. per ton, 40° Tw., £3. 17s. 6d. per ton, nett; soda crystals, in casks, 6d. per ton gross weight; in 2 cwt. bags, £2. 7s. 6d. per ton nett chlorate of potash, 8½d. per lb. less 6%; pearl hardening, ton, nett; pure white sulphate of alumina, £4. 2s. 6d. per ton, anc fixe, £7. 10s. per ton, nett; chloride of barium, £7. 10s. per t; carbonate of alumina, £28. 15s. per ton, nett; aluminate of 33. 15s. per ton, nett; in 5 ton lots, £28. 10s. per ton, nett.

Durham.—Salt unaltered, 9s. 6d. per ton net. f.o.b. Tees.

.—There is still a good demand, though taken all round prices y are weaker. Best Northumbrian steam, 12s. 6d. to r ton; second qualities, 11s. to 12s. per ton; small steam, l, 4s. 3d. to 4s. 6d. per ton; bunker coals weaker, at o 9s. 0d. per ton.; gas coals, steady, 9s. to 9s. 6d. per ton; m, 15s. 6d. per ton.

New Companies.

Viscose Syndicate Limited. CAPITAL, £12,000. in shares of £1. each. This company has been formed to acquire a certain patent for improvements in cellulose and the like compounds. The subscribers to the memorandum of association are:—C. F. Cross, 4, New-court, Lincoln's Inn, London, W.C., chemist; E. G. P. Thomas, 4, New-court, Lincoln's Inn, London, W.C., chemist; E. J. Bevan, 4, New-court, Lincoln's Inn, London, W.C., chemist; R. Merriman, 4, New-court, Lincoln's Inn, London, W.C., chemist; W. Bacon, 4, New-court, Lincoln's Inn, London, W.C., chemist; C. Beadle, 4, New-court, Lincoln's Inn, London, W.C., chemist; E. H. Joynson, St. Mary Cray, paper maker.

Wood and Dixon Limited. CAPITAL, £3,000. in shares of £1. each. This company has been formed to carry on the business of match and fusee makers and dealers in all its branches, and also to trade as metal founders and engineers.

The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of George E. Davis and Alfred R. Davis, who report professionally upon the value of Chemical Patents.

APPLICATIONS FOR ENGLISH LETTERS PATENT.

Improved Cement. J. Walker and R. Peach. 16. Jan. 1.
Clarifying and Filtering Liquids. A. W. T. Hülssner and F. W. P. Röhrig 58. Jan. 1.
Hardening Aluminous Materials. I. Weilein. 60. Jan 1.
Improvements in the Manufacture of Gas. F. W. Clark. 68. Jan. 1.
Apparatus for determining the Density of Gases. Georges Frère and M. Meslans 70. Jan. 1.
Manufacture of Paint. W. H. Hyatt. 71. Jan. 1.
Mineral Oil Burning Apparatus. F. Kempster. 81. Jan 2.
An Improved Disinfectant. F. H. Knights. 147. Jan. 3.
Manufacture of Pigments. O. Imray. 166. Jan. 3.
Obtaining Pure Carbonic Acid Gas. H. R. Angel and W. Smethurst. 231. Jan. 4.
Improvements in the Combustion Chambers of Puddling, Mill, Chemical, and Other Furnaces. J. Shenton. 232. Jan. 4.
Liquid Fuel Injectors. W. Steers. 297. Jan. 5.
Drying or Evaporating at Low Temperatures, and Apparatus Therefor. J. B. Alliott. 358. Jan. 6
Improvements in Anemometers. J. Hall. 359. Jan. 6.

Gazette Notices.

PARTNERSHIPS DISSOLVED.

W. MAY and E. MARRACK, general merchants and drysalters, Duke-street, Aldgate, London, E.C.
W. H. COWARD and F. C. IHLEE, engineers and manufacturers of the Niagara Crushing and Pulverising Mill, Bath, under the style of Coward and Ihlee.

IMPORTS OF CHEMICAL PRODUCTS AT THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

...NCHESTER.

...ek ending January 8th.

...Oil—
...dam, 1 ck.
...ic Acid—
...dam, 20 tbs.
...iffs—
...arine
...dam, 19 brls.
...racts
50 cks. G. Kenyon
...ic
700 t. Midgley & Sons
...go
...dam, 1 cht.
...wood
335 t.
—
...dam, 30 bgs.
...cetate—
...dam 31 cks.
...—
...dam, 4 cks.
...a Oil—
...dam, 20 cks.
...Acid—
...dam, 4 cks.
—
..., 41 cs.

Oxalic Acid—
Rotterdam, 16 cks
Potash—
Rouen, 18 cks. 41 dms. F. S. Bayley & Co.
Rotterdam, 20
Antwerp, 40 dms.
Pumice Stone—
Rotterdam, 12 cs.
Pyrites—
Huelva, 1,425 t. P. Spence & Sons
Starch—
Rotterdam, 1 ck.
Tallow—
Rotterdam, 201 tcs.
Tartaric Acid—
Rotterdam, 20 cks.
Ultramarine—
Rotterdam, 63 cs.

LONDON.

Week ending January 6th.

Acetic Acid—
Holland, 143 pkgs. Beresford & Co.
" 5 A. & M Zimmermann
Germany, 1 Domeier & Co.
Alkali—
Germany 40 c. A. & M. Zimmermann
Germany, 200 Pillow, Jones, & Co.
" 26 pkgs. L. & I. D. Jt. Co.
Alum—
Germany, 100 pkgs. R. W. Greeff & Co.
" 15 Ohlenschlager Brs.
Alumina Sulphate—
Holland, 31 pkgs. H. Wallace & Co.
Ammonia (Liquid)—
Holland, 2 pkgs. H. Wallace & Co.
Barium Chloride—
Germany, 5 pkgs. Petri Brs.
Barytes—
Holland, 24 cks. J. Kitchin, Ltd.
Germany, 57 D. Storer & Sons
" 114 W. Harrison & Co.
Holland, 52 R. Bew
" 63 pkgs. Magee, Taylor, & Co.
Belgium, 42 Burrell & Co.
" 35 J. L. Lyon & Co.
Bleaching Powder—
Holland, 34 pkgs. H. Wallace & Co.
Boracic Acid—
Italy, 5 pkgs. J. Knill & Co.
Castor Oil—
France, 20 brls. J. T. Morton
Belgium, 5 Fuerst Brs.
France, 12 F. V. Smythe & Co.
" 16 pkgs. Beresford & Co.
Germany, 1 cs. L. & I. D. Jt Co.
E. Indies, 750 Kiero, Moaker & Co.
" 260 Anderson, Weber & Smith
Caustic Potash—
Holland, 100 c. J. M. Steel & Co.
" 20 Beresford & Co.
Belgium, 38 Petri Brs.
Caustic Soda—
Holland, 110 c. Beresford & Co.
Chemicals *(otherwise undescribed)*
Germany, 50 pkgs. T. H. Lee
" 84 A. & M. Zimmermann
" 6 Craven & Co.
" 4 Boyce Brs.
" 5 Phillipps & Graves
Holland, 5 Beresford & Co.
" 17 J. Owen
" 16 F. Boehm
" £15 H. Lorenz
France, 2 C. F. Gerhardt
Norway, 14 S. C. D. Co.
Copperas—
Germany, 31 pkgs. B. & N. F. Wf. Co., Ltd.
Cream of Tartar—
Italy, 20 pkgs. Howards & Sons
Holland, 50 Middleton & Co.
France, 10 W. C. Bacon & Co.
" 1 B. & F. Wf. Co., Ltd.
" 10 M. Ashby, Ltd.

Dextrine—
Germany, 200 pkgs. M. D. Co.
" 5 T. H. Lee

Dyestuffs—
Aniline
Holland, 1 pkge. W. Isted
Annatto
Ceylon, 20 pkgs. Rathbone Brs., & Co.
Argols
Italy, 101 pkgs. Thames S. T. & L. Co.
Cochineal
Canaries, 12 pkgs Swanston & Co.
" 7 G. S. Bruce
" 8 Park, Macfadyen & Co.
Cutch
Rangoon, 1,102 pkgs. A. Howden & Co
" 600 Hoare, Wilson & Co.
E. Indies, 280 R G. Hall & Co.
Gambier
E. Indies, 776 pkgs. R. & J. Henderson
" 937 Beresford & Co.
" 875 L. & I. D. Jt Co.
" 439 E. Boustead & Co.
" 512 Brown & Elmslie
Indigo
E. Indies, 166 chts L. & I. D. Jt. Co.
" 28 Arbuthnot, Latham, & Co
" 22 F. Huth & Co.
" 17 R. Von Glehn & Sons
" 169 Elkan & Co.
" 35 Darling Brs,
" 71 Parsons & Keith
" 12 T. Barlow & Bro.
" 20 E. Bower & Co
" 16 J. Kenyon & Sons
" 15 E. Borner & Co.
" 5 Koebel & Co
" 100 Ernsthausen & Co.
" 38 P. & O. Co
Myrabolams
E. Indies, 430 pkgs. Baxter & Hoare
Orchella
E. Indies, 3 pkgs. L. & I. D. Jt. Co.
Safflower
E. Indies, 10 pkgs Leach & Co.
Saffron
Spain, 3 pkgs. C. Brumlen & Sons
" 1 Middleton's S. S. Wf. Co
Shumac
Spain, 50 pkgs. G Kenyon
Italy, 1,4000 J. Kitchin, Ltd
" 250 J. Graves
" 100 J. Knill & Co.
Tanner's Bark
Natal 150 t. A. & W. Nesbitt
Turmeric
U States, 403 pkgs. J. P. Alpe & Co.
China, 173 Beresford & Co.
Japan, 36 C. A & H. Nichols
China, 165 Melchers, Runge, & Co.
Valonia
S. Russia, 11 t. Schloesser Brs.
A. Turkey, 35 A. & W. Nesbitt

Farina—
Germany, 296 pkgs Dutrulle, Solomons, & Co.
" 100 P. Windmuller & Co.
Holland, 172 A. B. Curtis & Co
" 50 Prop. Chmbln.'s Wf.
" 50 H. Lorenz

Glucose—
U. States, 150 pkgs. 600 c. L. Norman & Co., Ltd.
" 85 520 Prop. Scott's Wf.
" 100 555 Pillow, Jones, & Co.
" 359 1,972 Beck & Pollitzer
" 50 300 Williams, Torrey, & Co
" 500 3,037 R. G. Hall & Co
" 300 300 G. Hedges & Sons
" 750 750 J. Barber & Co.
" 500 500 C. F. Webster & Co.
" 5 28 Linton, Hubbard, & Co.
" 50 282 L. Sutro & Co., Ltd.
" 1,199 1,199 Barrett, Tagant, & Co.
France, 200 200 "
Holland, 80 80 Prop. Sun Wf
Germany, 12 94 J. Knill & Co

Lead Acetate—
Holland, 12 pkgs. F. Boehm

Magnesia—
Holland, 30 pkgs. Beresford & Co.

Manure—
France, 110 t. A. Hunter & Co.
Germany, 50 F. W. Berk & Co., Ltd
France, 50 C. A. & H Nichols
Holland, 180 West & Penrose
N. Russia, 10 Hoyerman's Agency

Methyl Alcohol—
Germany, 17 cks. Lister & Biggs
" 6 dms. Elkan & Co.

Ochre—
France, 145 cks. W. Harrison & Co.
Holland, 5 cs. Phillipps & Graves
France, 42 cks. Houlder Brs., & Co.

Paraffin Wax—
Rangoon, 825 pkgs. H. Hill & Sons
U. States, 100 brls. "
" 72 G. H. Frank
" 273 3,476 pkgs. J. H. Usmar & Co.

Phosphate Rock—
France, 235 t. A. Hunter & Co.
Belgium, 145 T Farmer & Co.
" 50 Anglo-Contl. G. Wks.

Phosphoric Acid—
U. States, 31 pkgs. Seaward Brs.

Pitch—
U. States, 49 pkgs. T. Simpson
N. Russia, 400 brls. Fellows, Morton. & Co.

Potassium Bicarbonate—
Holland, 40 c. A. & M. Zimmerman

Potassium Carbonate—
Belgium, 594 c. W. G. Blagden

Potassium Sulphate—
Germany, 254 pkgs. Bessler, Waechter & Co.
France, 13 Mead, Son & Co.

Pumice Stone—
Italy, 9 t. W. J. Davies & Sons
" 10 D. Storer & Sons
" 1½ G. W Largin

Pyrites—
Spain, 1,400 t. C. L. Vasey & Co.
" 2,547 C. Tennant, Sons & Co.

Rosin—
Germany, 3 brls. H. Lambert
U.S., 4,196 G. Nutter & Co.
" 500 F. & S. Chiesman & Co.
Pt. Said, 1 A. F. White & Co.
France, 4 J. Watt & Son

Salt—
Portugal, 200 t. Pillow, Jones & Co.

Saltpetre—
Germany, 136 cks. P. Hecker & Co.
E. I., 573 bgs. Wrightson & Son

Sodium Bisulpbate—
Germany, 1 pkge. L. & I. D. Jt Co.

Sodium Chlorate—
France, 242 pkgs. A Hughes

Sodium Sulphide—
Holland, 71 pkgs. Beresford & Co

Starch—
Holland, 28 pkgs. Little & Johnston
" 800 Vokins & Co.
" 108 Magee Taylor & Co.
Belgium, 160 Sawer, Sons & Co.
France, 6 Dutrulle, Solomons & Co.

Stearine—
France, 100 bgs. H. Hill & Sons
" 4 F. W. Clarke
" 80 Walbaum & Tosetti
Holland, 62 Magee, Taylor & Co.
" 62 Robinson, Roberts & Co.
U.S., 150 H. Hill & Sons

Sulphur—
Italy, 350 t. W. C. Bacon & Co.
" 150 B. Jacob & Sons
" 400 Brandram Brs. & Co.
" 5 C. Tennant, Sons & Co.
" 40 J. Kitchin, Ld.
" 5 Blundell, Spence & Co.

Tartaric Acid—
Italy, 10 pkgs. Union L. Co., Ld.

Turpentine—
France, 15 cks. T. Trapp & Sons

Ultramarine—
Belgium, 14 pkgs. W. Harrison & Co.
Holland, 20 cks. Hernu, Peron & Co.

Varnish—
Holland, 4 pkgs. G. Rahn & Co.
France, 5 Flageollet & Co.

Verdigris—
France, 1 pkge. B. & F. Wf. Co., Ltd.

White Lead—
Germany, 10 cks. H. Lambert
" 55 G. F. Clifford
Holland, 11 Petri Brs.
" 67 Burrell & Co.
" 43 T. & W. Farmiloe
Germany, 13 Petri Brs

Zinc Oxide—
Holland, 75 brls. M. Ashby, Ltd.
Germany, 35 cks. Beresford & Co.

LIVERPOOL.

Week ending January 4th.

Alkali—
Hamburg, 10 cks.

Barytes—
Rotterdam, 23 cks.
Antwerp, 26

Bone Meal—
Bombay, 3,000 bgs.

Boracite—
Panderma, 100 t. Roberts & Evans
" 250

Calcined Magnesite—
Kimassi, 2,078 bgs. Tennants & Co.

Castor Oil—
Marseilles, 264 brls.

Colours—
Rotterdam, 9 cks.
Antwerp, 14 brls.

Cottonseed Oil—
New York, 6 brls.

Cream of Tartar—
Marseilles, 10 brls.
Tarragona, 6 cks.
Barcelona, 5 cs. Sachse & Klemm
" 10 hhds.

Dyestuffs—
Annatto
Bordeaux, 10 cks.
Cutch
New York, 50 bls.
Extracts
Baltimore, 8 brls. Houston & Laurisch
" 30 R. Schlosser & Sons
" 40 Harvey, Peek, & Co.
" 2 E. G. Jepson & Co.
New York, 12 cks.
Bordeaux, 150
Fustic
Tampico, 2,000 ps. Moffat Bros.
" 4,598 Gruning & Co.
Gambier
Singapore, 1 384 bls. R. & J. Henderson
" 6,740 412 bgs.
Indigo
Bombay, 10 cs.
Logwood
New York, 18 brls. B. J. Young
" 1 998 ps.
Madder
Marseilles, 9 brls.
Myrabolams
Bombay, 1,005 bgs. D. Sassoon & Co.
" 967
Shumac
Barcelona, 100 bgs.
Bordeaux, 100 bls.
Valonia
Syra, 308 bgs. Barff & Co.
Smyrna, 50 t. Paterson, Johanes, & Co.
" 1,628 bgs.

Glucose—
New York, 50 brls. 550 tcs.
Antwerp, 100 bgs.

Magnesite—
Kimassi, 1,125 t Tennants & Co.

Manganese—
Kobe, 820 bgs. 145 t.

Manure—
Antwerp, 9 cks.

Nickel Oxide—
Antwerp, 82 brls.

Mica—
Portland, Me., 4 cs. — Davis

Ochre—
Alicante, 60 bgs.
Bordeaux, 13 cks.

Paint—
Boston, 100 cs. M. Nicol
New York, 63 pkgs. 15 brls.

Paraffin Scale—
New York, 203 brls.

Paraffin Wax—
Boston, 100 brls. M
Ba

Pitch—
Antwerp, 19 cks.

Potash—
Antwerp, 16 dms. J T. Fl
" 48 9 cks.

Pyrites—
Huelva, 3,162 t. Matheson

Saltpetre—
Hamburg, 30 brls.

Soapstone—
Bordeaux, 500 bgs. G. G. Blac

Soda—
Rotterdam, 15 cks.

Soda Ash—
Bombay, 1 bx. Grahams &

Starch—
Hamburg, 232 cs.
Rotterdam, 164
Antwerp, 120 J. T. Fle
" 282

Stearine—
Antwerp, 26 bgs.

Tallow—
Boston, 47 hhds. 59 brls.
Baltimore, 61
New York, 60 125 tcs.
Boston, 20 F. L. Y

Tartar—
Bordeaux, 12 cks.

Tartaric Acid—
Bordeaux, 4 cks.

Turpentine—
New York, 20 cs.

Ultramarine—
Rotterdam, 3 cs.

Varnish—
Boston, 88 brls. W. H. Sta & S
" 4 "
New York, 1 cs.

White Lead—
Rotterdam, 78 cks.
Antwerp, 7

Zinc Oxide—
Rotterdam, 20 cks.

HULL.

Week ending January 6th.

Acids—
Rouen, 15 cks.
Bari, 57 Wilson, S & Co.,

Alkali—
Bremen, 3 pks. Veltm &

Alum—
Rotterdam, 74 cks. W. & C Ring

Arsenic—
Hamburg, 100 cks Wilson, S & Co.,

Barytes—
Antwerp, 74 cks.
Rotterdam, 50 Hutchinson &
Antwerp, 12 40 bgs. Baile Leet
Bremen, 46
Riga, 187 Wilson, S & Co.,
Rotterdam, 47 Blundell, Spe &

Bleaching Powder—
Antwerp, 25 cks. Wilson, S & Co.,

Bone Meal—
Bombay, 4,450 bgs.

Camphor—
Hamburg, 4 cks. Wilson, S & Co.,

Caoutchouc—
Antwerp, 2 bls. Wilson, S & Co.,

Castor Oil—
Trieste, 152 cs. Wilson, S & Co.,

lose—
burg, 51 bls. Wilson, Sons, & Co., Ld.

icals *(otherwise undescribed)*
hing, 5 cs. Brasch & Rothenstein
erp, 52 pkgs. Wilson, Sons, & Co., Ld.
ben, 9 Veltmann & Co.
rig, 6 cks. W. & C. L. Ringrose
erdam, 3 pks. "

irs—
ht, 21 cks.
hing, 3 G. Lawson & Sons
erdam, 7 16 pks. "
rig, 36 W. & C. L. Ringrose
erdam, 5 cs. 29 157 "
" 6 3 Hutchinson & Son
hing, 12 "

nseed Oil—
York, 500 brls. Wilson Sons, & Co., Ltd.

tuffs—
lizarine
terdam, 201 pks W. & C. L. Ringrose

gwood
nburg, 70 bgs. Wilson, Sons, & Co., Ld.

adder
terdam, 2 cks. Wilson, Sons, & Co., Ltd.

yrabolams
bay, 7,010 bgs.

umac
rmo, 800 bgs. Wilson, Sons, & Co., Ltd.
" 500

alonia
ma, 206 t.

ia—
nt, 240 cs. Wilson, Sons, & Co., Ltd.
ingen, 550 bgs.
erp, 50 Bailey & Leetham
burg, 50 Wilson, Sons, & Co., Ld.

se—
erdam, 40 bgs. W. & C. L. Ringrose
York, 200 brls. Wilson, Sons, & Co., Ld.
in, 1,000 bgs.

Chloride—
burg, 4 cks. Wilson, Sons, & Co., Ld.

n—
erdam, 262 bgs. Reckitt & Sons
—
York, 1,531 bgs. Wilson, Sons, & Co., Ld.

al White—
te, 100 bgs. Wilson, Sons, & Co., Ltd

tha—
burg, 9 cks.
" 1 Wilson, Sons, & Co., Ld.

Paint—
New York, 4 kgs. Wilson, Sons, & Co., Ld.
Boston, 50 cs. J. Good & Sons

Phosphate—
Ghent, 200 t. 200 bgs.
Antwerp, qty.

Pitch—
Rotterdam, 48 cks. H. F. Pudsey

Potash—
Rotterdam, 7 cks. Hutchinson & Son

Rosin—
New York, 1 brl.

Rosin Oil—
Hamburg, 1 cs. C. M. Lofthouse & Co.

Saltpetre—
Hamburg, 200 kgs. Wilson, Sons, & Co., Ld.

Soap—
Bari, 26 cs. Wilson, Sons, & Co., Ltd
" 5
New York, 50 bxs

Soda—
Antwerp, 54 bgs. Wilson, Sons, & Co , Ld.
" 8 cks. Blundell, Spence & Co.

Starch—
Bremen, 920 cs. Veltmann & Co.

Stearine—
Antwerp, 13 bgs. Bailey & Leetham

Sulphur—
Catania, 1,350 pks. Wilson, Sons, & Co , Ld.
" 534

Talc—
Bordeaux, 50 bgs. Rawson & Robinson

Tallow—
New York, 481 tcs. 147 pks Wilson, Sons, & Co., Ld.
Boston, 25 "

Tartar—
Bordeaux, 13 cks. Rawson & Robinson

Turpentine—
Bordeaux, 20 brls. Rawson & Robinson

Ultramarine—
Rotterdam, 10 cs. Hutchinson & Son

Varnish—
Antwerp, 1 cs. J. & T. Seddon
New York, 20 brls.

Waste Salt—
Hamburg, 305 bgs. Furley & Co.

White Lead—
Rotterdam, 32 cks. Hutchinson & Son
" 11 Hanger, Watson & Harris
" 10 Fewester & Son

Zinc Oxide—
Rotterdam, 55 cks. Hutchinson & Son

GLASGOW.

Week ending January 11th.

Alum—
Hamburg,, 157 cks.

Barium Sulphate —
Antwerp, 300 bgs.

Barytes—
Rotterdam, 171 cks.

Boracic Acid—
Leghorn, 16 cks.

Castor Oil—
Marseilles, 199 brls. 49 pkgs.
Leghorn, 22 cs.

Chrome Ore—
Ismidt, 1,250 t.

Colours—
Rotterdam, 21 cks. J. Rankine & Son

Cream of Tartar—
Marseilles, 25 brls. 30 cks.

Dextrine—
Hamburg, 10 bgs.

Dyestuffs—
Extracts
Genoa, 50 brls.
Rouen, 2 cks.
Marseilles, 20
Baltimore, 24 J. Strang & Sons
" 50 M'Arthur, Scott & Co.

Logwood
Jamaica, 315 t. 6 c. M'Arthur, Scott & Co.

Sumac
Palermo, 20 bls. 1,950 bgs.

Dyestuffs *(otherwise undescribed)*
Genoa, 5 cs.

Glucose—
New York, 249 bls.

Lead Acetate—
Hamburg, 12 cks.

Ochre—
Marseilles, 153 cks.

Phosphates—
Dunkirk, 2,000 bgs.
Ghent, 1,500

Pyrites—
Huelva, 1,944 t. Tharsis Co.

Salt—
New York, 250 bgs.

Soap—
Baltimore, 340 brls. G. Heys & Co.
New York, 40 bxs.

Sodium Stannate—
Hamburg, 3 cks.

Starch—
Baltimore, 400 bgs.
New York, 499

Sulphur—
Catania, 1,170 bgs 29 brls. 6,000 c.
Girgenti, 11,000

Sulphur Ore—
Seville, 106 t. Seville Sulphur and Copper Co.

Tartar—
Bordeaux, 12 cks.
Messina, 4

Tartar Emetic—
Hamburg, 4 cks.

Varnish—
New York, 5 pkgs.

White Lead—
Ghent, 23 cks.

Zinc Oxide—
Rotterdam, 25 cks. J. Rankine & Son

TYNE.

Week ending January 6th.

Alum Earth—
Hamburg, 17 cks. Tyne S. S. Co.

Asbestos—
Rotterdam, 6 bls. Tyne S. S. Co.

Barytes—
Antwerp, 50 bgs, 44 cks. Tyne S. S. Co.
Rotterdam, 39 "

Limestone—
Antwerp, 2 crts. 1cs. Tyne S. S. Co.

Pyrites—
Huelva, 1,736 t.

Soda—
Rotterdam, 100 brls. Tyne S. S. Co.

White Lead—
Antwerp, 40 brls. Tyne S. S. Co.

GOOLE.

Week ending January 3rd.

Dyestuffs *(otherwise undescribed)*
Boulogne, 1 ck. 1 cs 21 pkgs.

Farina—
Hamburg, 600 bgs
Delfszyhl, 300

Phosphate—
Ghent, 2,416 bgs.

Potash—
Dunkirk, 20 dms.
Rotterdam, 10 cks.
Antwerp, 12

Saltpetre—
Rotterdam, 200 bgs.
Antwerp, 85

Soda—
Rotterdam, 10 cks.

Sugar of Lead—
Hamburg, 31 cks.

Waste Salt—
Hamburg 281 cks. 102 bgs.

GRIMSBY.

Week ending January 6th.

Chemicals *(otherwise undescribed)*
Rotterdam, 8 cks.
Hamburg, 25 cs.

Zinc Ashes—
Antwerp, 17 cks.

EXPORTS OF CHEMICAL PRODUCTS
OF
THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending January 10th.

—
Indria, 3 c. £8
Palmas, 2 cs. 12

onium Carbonate—
n, 5 c. £9
io, 10 22

onium Sulphate—
d, 30 t. 3 c. £371
on, 70 980
bo, 3 48
ne, 300 3,937

ic—
y, 1 t. £15

m Nitrate—
2 cks. £9

Borax—
Harlingen, 3 cs. £20
Oporto, 1 ck. 9
Mannheim, 2 t. 9 c. 75

Carbolic Acid—
Hamburg, 14 cks. £36
Antwerp, 44 cns. 52
Rotterdam. 48 cks. 182

Carbon Bisulphide—
Dunkirk, 6 t. 8 c. £80

Caustic Potash—
Melbourne, 1 t. 3 c. £30

Caustic Soda—
Sydney, 25 t. 5 c. £244
Hobart, 4 47
Melbourne, 28 284

Chemicals *(otherwise undescribed)*
Shanghai, 3 cs. £9
Cape Town, 7 pkgs. 59
Madras, 5 cks. 31
Hobart, 1 12
Calcutta, 4 17

Citric Acid—
Seville, 2 c. £16
Lisbon. 10 76
Cape Town, 1 9
Libau, 1 ck. 11
Hamburg, 11 84
Genoa, 4 32

Coal Products—
Alizarine
Bombay, 25 kgs. £170
Aniline
Tientsin, 25 cs. £180
N. York, 35 pkgs. 475
Melbourne, 5 22
Aniline Oil
Ghent, 1 brl. £12
Anthracene
Rotterdam, 276 cks. £1,956
Benzol
Rotterdam, 23 drs. £362
Hamburg, 77 pkgs. 505
Creosote
Huelva. 4,117 brls. £1,630
Naphtha
Treport, 30 brls. £75
Naphthaline
Gothenburg, 1 cs. £5
Antwerp, 1 ck. 10
Paraffin Wax
Launceston, 312 bgs. £464
Libau, 15 30
Newcastle, 202 cs. 521
Pitch
Dunkirk, 2,244 t. £2,502
St. Nazaire, 1,325 1,875
Havre, 525 800
Alexandria, 200 brls. 68

Tar
Melbourne, 18 cks. 75 dms. £22
Algoa Bay, 90 9
Batavia, 20 brls. 9
Sourabaya, 100 44
Samarang, 100 44
Tar Oil
Paris, 20 cks. £50
Coal Products (*otherwise undes.*)
Batavia, 100 rns. £50
Copper Sulphate—
Lisbon, 6 t. 4 c. £91
Brisbane, 5 89
Corrosive Sublimate—
Lisbon, 2 cs. £19
Cream of Tartar—
Townsville, 7 c. £20
Sydney, 7 14 550
Disinfectants—
Melbourne, 1 t. 8 c. £15
Penang, 10 dms. 35
Colombo, 34 pkgs. 26
Shanghai, 7 10
Bombay, 5 4 45
Manure—
Treport, 49 t. 16 c. £300
Genoa, 60 14 219
Cape Town, 6 40
Phosphorus—
Hobart, 5 cs. £50
Potassium Cyanide—
Delagoa Bay, 3 cks. £29
Calcutta, 2 15
Salammoniac—
Cologne, 1 t. 1 c. £36
Reval, 5 cks. 37
Samsoun, 1 34
Alexandretta, 1 1 36
Saltpetre—
Lisbon, 3 13 £79
Madeira, 8 10
Colombo, 8 9
Sheep Dip—
E. London, 100 drs. £11
Brisbane, 100 cs. 300
Lyttelton, 20 dms. 5
Algoa Bay, 20 60
M. Video, 300 50
Soda—
Huelva, 1 t. 19 c. £7
Soda Ash—
Hobart, 4 t. £17
Soda Crystals—
Sydney, 25 t. 11 c £65
Soda Salts—
Brussels, 1 cs. £7
Sodium Bicarbonate—
Natal, 1 t. £6
Dunedin, 1 7
Sodium Hyposulphite—
Natal, 1 t. £8
Sodium Sulphate—
Ghent, 82 t. £123
Strontium Nitrate—
Madras, 3 cs. £15
Reval, 1 ck. 6
Sulphur—
E. London, 20 kgs. £6
Colombo, 20 12 c. 16
Melbourne, 5 t. 30
Sulphuric Acid—
Cape Town, 6 t. 16 c. £36
Algoa Bay, 1 11
B. Ayres, 4 12
Superphosphate—
Mauritius, 62 t. £203
Tartaric Acid—
B. Ayres, 1 t. 1 c. £99
Rockhampton, 2 11
Melbourne, 5 482
Adelaide, 1 10 147
Dunedin, 2 kgs. 6
Cape Town, 1 6

LIVERPOOL.

Week ending January 10th.

Alum—
Calcutta, 18 t. 12 c. £164
Montreal, 1 4 6
Alexandretta, 2 10 12
Corfu, 17 3 q. £5
Constantinople, 1 6
Smyrna, 1 6
Alexandria, 19 10 117
Ammonium Carbonate—
Boston, 2 t. 17 c. 3 q. £95
Portland, Me., 10 17
Gothenburg, 15 1 26
Ammonium Chloride—
Portland, Me., 5 c. £8
Bombay, 7 t. 10 255
Salonica, 1 1 31
Montreal, 9 16
Rotterdam, 2 5 35
Volo, 10 17
Canada, 3 8
Constantinople, 2 70
Syra, 12 21
Alexandria, 2 70
Patras, 6 3 q. 12
Piræus, 1 1 3 38
Ammonium Sulphate—
Ghent, 100 t. 13 c. 3 q. £1366
Valencia, 52 3 700
Boston, 1 1 35
Demerara, 22 12 2 311
Gr. Canary, 40 19 2 560
Hamburg, 50 714
Asbestos—
Calcutta, 1 bl.
Bleaching Powder—
Baltimore, 323 cks.
Boston, 887
Corunna, 8 brls.
Demerara, 7
Genoa, 30
New York, 424
Porto Alegre, 4
Rouen, 15
Syra, 5
Calcutta, 250 cs.
Corfu, 10
Montreal, 34
Naples, 17
Vera Cruz, 18
Borax—
Calcutta, 9 c. £15
Antwerp, 4 t. 12 111
Hamburg, 16 5 496
Calcium Chloride—
Baltimore, 12 t 1 c. £30
Carbolic Acid—
Hong Kong, 6 c. £6
Genoa, 1 61
N. Orleans, 10 7 3 q. 399
Caustic Potash—
New York, 7 t. 4 c. £190
Caustic Soda—
Antwerp, 40 dms.
Bahia, 115
Baltimore, 357
Bombay, 25
Calcutta, 193
Corinto, 57
Ghent, 28 brls.
Hamburg, 40
Havre, 35
Hong Kong, 20
Leghorn, 101
Maranham, 10
New York, 815 181
Pasages, 125
Pimental, 30
Rosario, 50
Rotterdam, 51
Rouen, 51
Sagua la Grande, 32
Salonica, 33
Seville, 263
Singapore, 12
Smyrna, 5
Sourabaya, 40
Tampico, 100 kgs.
Tarragona, 20 10 cks.
Yokohama, 225
Adelaide, 60
Barcelona, 570
Boston, 232
Galveston, 60
Genoa, 113
Melbourne, 104
Montreal, 150
Odessa, 75
Piræus, 50
Puebla, 60
Sydney, 84
Chemicals (*otherwise undescribed*)
Alexandria, 1 t. 10 c. £52
Marseilles, 4 7
Naples, 1 2 1 q. 37
Cairo, 2 70
Larnaca, 6 10
Gothenburg, 6 10
Piræus, 6 10
Beyrout, 12 22
China Clay—
Calcutta, 16 c.
Genoa, 10 t.
Odessa, 10
Bahia, 20
Bombay, 50
Boston, 282 2
Chrome Ore—
New York, 9 cks.
Coal Products—
Alizarine
Lisbon, 4 kgs.
Aniline Colours
New York, 2 kgs. 4 cks. 1 cs.
Aniline Oil
New York, 10 dms.
Aniline Salts
New York, 53 cs.
Benzol
Malta, 2 cs.
Pitch
Marseilles, 1,143 t. 15 c.
Valparaiso, 150 brls.
Lisbon, 9 cks.
Tar
Accra, 15 brls.
Demerara, 10
Copperas—
Calcutta, 13 t. 7 c. 2 q. £30
Varna, 5 5 11
Smyrna, 4 2 1 10
Copper Sulphate—
Seville, 4 t. 10 c. £70
Lisbon, 22 3 1 q. 315
Fiume, 5 10 1 75
Rouen, 48 756
Leghorn, 2 8 35
Venice, 31 3 1 452
Genoa, 9 9 2 137
Bari, 5 4 75
Ancona, 7 7 1 106
Marseilles, 59 16 960
Bordeaux, 39 17 640
Patras, 2 7 2 33
Corrosive Sublimate—
Alexandretta, 2 c. £28
Disinfectants—
Calcutta, 4 c. £20
Bombay, 4 t. 30
Dried Blood—
Gr. Canary, 5 t £39
Las Palmas, 5 3 c. 3 q. 52
Guano—
Demerara, 4 t. 8 c. 3 q. £25
Malaga, 17 9 158
Lead Acetate—
Canada, 14 c. 1 q. £16
Magnesia—
New York, 30 cks.
Magnesium Chloride—
Halifax, 25 dms.
Porto Alegre, 38
Magnesium Sulphate—
Bombay, 100 kgs. £300
Oporto, 10 cks.
Manure—
Rochefort, 422 t. 6 c. 1 q. £1,343
St. Malo, 200 2 3 931
New York, 1 11
Las Palmas, 5 15
Paint—
Cartagena, N.G., 120 kgs.
Constantinople, 3 cks.
Gibraltar, 6 brls.
Havana, 4
M. Video, 19
Santa Cruz, 125
Trieste, 8
Cienfuegos, 4
Manaos, 10
Montserrat, 5
Nassau, 1 60
Oran, 25 dms.
San Pedro, 5
Santa Martha, 1
Paraffin Wax—
Rouen, 10 cs.
Barcelona, 10
Phosphorus—
Shanghai, 20 cs. 1 t. 10 c. £408
Hiogo, 10 4 2 q. 197
Hong Kong, 7 92
Potashes—
Genoa, 7 t. 18 c. 3 q. £199
Rotterdam, 11 1 14
Potassium Bichromate—
Smyrna, 4 t. 1 c. £161
Alexandretta, 14 28
Aleppo, 6 cks. 35
Potassium Carbonate—
Cienfuegos, 4 c. 1 q. £7
New York, 7 7 141
Potassium Chlorate—
New York, 30 t. £1,736
M. Video, 10 c. 28
Hiogo, 12 10 705
Yokohama, 15 842
Hamburg, 5 10
Gothenburg, 10
Genoa, 3 2
Oporto, 10
Amsterdam, 2
Odessa, 8
Potassium Stannate—
Bombay, 1 t. 1 q.
Salt—
Accra, 27 t. 10 c.
Akassa, 420
Amsterdam, 180
Antwerp, 278
Bata, 19
Batanga, 10
Belize, 640 18
Boston, 200
Brass, 10
B. Ayres, 1 10
Cameroons, 65
Cape Lopez, 31 10
Chama, 18 2
Eloby, 18
Gaboon, 9
Ghent, 110
Gr. Bassa, 4 15
Gr. Bassam, 5
Mayumba, 6
Melbourne, 50
Newport News, 335
New York, 68
Old Calabar, 64 9
Opobo, 25
Pernambuco, 9
Philadelphia, 68 10
Rotterdam, 100
Sherbro, 100
Sierra Leone, 550 4
Victoria, W.C.A., 21
Anamaboe, 18 15
Baltimore, 65
Bonny, 30
Buguma, 25
Calcutta, 741
Chittagong, 3,481
Demerara, 270 7
Mandal, 35
Portland, Me, 65
Quillon, 116 1
Sapelli, 23 8
Tangiers, 1
Saltcake—
Antwerp, 210 t.
Ghent, 200
Baltimore, 101 2 c.
Saltpetre—
Bahia, 2 t
Sheep Dip—
B. Ayres, 26 t.
Soap—
Algoa Bay, 271 bxs. 2 cs.
Amboina, 1,500
Barbadoes, 702
Bata, 20
Belize, 500
Benin, 100
Bermuda, 150
Bombay, 821 39
B. Ayres, 1
Cameroons, 100
C. C. Castle, 106
Cape Town, 1,275 2
Delbi, 7
Demerara, 1,980
Dominica, 40
Dey Harbour, 25
E. London, 937 25
Ferrol, 15
Gibraltar, 1,026
Guayaquil, 70
Havre, 300 120
Kurrachee, 775
Lagos, 550
Madras, 5
Malta, 35
Melbourne, 1,000
Mossel Bay, 135
N. Orleans, 300
Pt. Natal, 280 25
Puerto Barrios, 200
Rotterdam, 10
St. John's, N.F., 20
St. Nazaire, 100
San Fernando, 300
Shanghai, 3,450
Singapore, 1,000 46
Syra,
Ternate, 502
Trinidad, 500
Valparaiso, 436 7
Warre, 200
Yokohama, 1

Boston, 60
Brussels, 400
Calcutta, 10
Cape Lahon, 40
Conakry, 60
Constantinople, 2 5 fkns.
Elmina, 206
Half Jack, 20
Hong Kong, 300
Las Palmas, 940
Manaos, 26
New York, 71
Pt. Elizabeth, 810
Savannah la Mar, 100
Sierra Leone, 87
Smyrna, 80

Soda Alkali—
Smyrna 35 brls.

Soda Ash—
Algoa Bay, 40 kgs.
Antwerp, 100 bgs. 20 cks.
Baltimore, 1,528 80
Barcelona, 47
Boston, 2,267 169
Calcutta, 3
Corfu, 206 brls.
Fiume, 100
Ghent, 134 24
Hamburg, 331
Hamilton, 600 23
New York, 3,860 97
Philadelphia, 917 135
Pt. Said, 97
Smyrna, 410 brls.
Syra, 50 5
Candia, 50
Lisbon, 5
Montreal, 656 36
Oporto, 4
Patras, 20
Rotterdam, 10
Salonica, 60
San Francisco, 60 tcs.
Venice, 100
Zante, 120 brls.

Soda Crystals—
Algoa Bay, 20 brls.
Boston, 434
Malta, 100
Pt. Natal, 20
Calcutta, 23
Iquique, 100 kgs.
Rosario, 100
Salonica, 14
Varna, 12

Sodium Arseniate—
Boston, 5 cks.

Sodium Biborate—
Antwerp, 30 cks.
Ghent, 8 brls.

Sodium Bicarbonate—
Kurrachee, 150 kgs.
Limassol, 10 cks.
Odessa, 60
Oporto, 1
Rosario, 100 10
St. John's, Nfd, 675 10
Singapore, 17
Toronto, 50
Antwerp, 18
Barcelona, 90
Beyrout, 50
Catania, 50
Dunkirk, 20
Ghent, 20
Messina, 25
Palermo, 10
San Francisco, 300
Seville, 20
Trieste, 45

Sodium Carbonate—
New York, 252 brls.
Barcelona 60 cks.

Sodium Chlorate—
Hamburg, 80 kgs.
Genoa, 40
Rotterdam, 20

Sodium Silicate—
Bilbao, 10 cks.
Calcutta, 9
Corinto, 6
Malta, 8
San Sebastian, 48
Seville, 116
Tunis, 16
Woodstock, 34
Callao, 32

Strontia—
Bremen, 99 t. 16 c. £1,275

Sulphur—
Demerara, 15 t. £98
Boston, 225 6 c. 1,698
Bahia, 1 15 1 q. 15

Sulphuric Acid—
Iquique, 3 t. 18 c. £36
Maranham, 3 5

Superphosphate—
Gd. Canary, 12 t. 5 c. £55

Varnish—
B. Ayres, 2 cs.
Naples, 3

White Lead—
St. John's, Nfd., 2 cks.

Zinc Chloride—
Oporto, 17 c. 2 q. £15
Bombay, 2 t. 11 2 31

Zinc Oxide—
Smyrna 10 c. 1 q. £8
Hamburg, 3 cks.

HULL.

Week ending January 6th.

Alkali—
Naples, 56 cks.

Ammonium Sulphate—
Antwerp, 2,196 bgs.
Dunkirk, 242
Ghent, 200
Genoa, 90
Marseilles, 219
Rotterdam, 1,904

Benzol—
Hamburg, 5 cs. 9 cks.

Bleaching Powder—
Bombay, 20 dms.
Hango, 197 cks.
Naples, 12

Borax—
Antwerp, 10 cks.

Carbolic Acid—
Amsterdam, 8 cks.
Rotterdam, 25

Caustic Soda—
Bombay, 18 dms.
Gothenburg, 15
Venice, 52

Chemicals (*otherwise undescribed*)
Antwerp, 30 cs. 20 pkgs.
Amsterdam, 21 cks. 13 pks.
Bari, 20 dms.
Bombay, 17
Christiania, 4 7 cs.
Danzig, 38 130 pkgs. 175 slbs.
Ghent, 7
Gothenburg, 70 4 56 cs.
Hamburg, 25 153 11 pks.
Libau, 20
Reval, 68 1
Rotterdam, 7 17 90
Stettin, 1 2
Trieste, 12

Cottonseed Oil—
Bremen, 83 c.
Cologne, 491
Dusseldorf, 214
Duisberg, 600
Flushing, 201
Fiume, 100
Gothenburg, 50
Hamburg, 1,052
Marseilles, 1,205
Naples, 50
Rotterdam, 2,644
Stettin, 42
Trieste, 1,158

Dyestuffs (*otherwise undescribed*)
Hamburg, 1 cs. 1 bl.
Reval, 14 cks.
Stettin, 1

Linseed Oil—
Bari, 4 c.
Bombay, 93
Christiania, 84
Cologne, 378

Manure—
Hamburg, 2 bls.
Leghorn, 500 bgs.

Mineral White—
Flushing, 200 bls.
Harlingen, 200

Naphtha—
Dunkirk, 5 cks.

Ochre—
Antwerp, 24 cks.
Hamburg, 23

Painters' Colours—
Antwerp, 4 cs. 39 cks. 4 dms.
Bombay, 28 5 420 pkgs.
Cologne, 1
Dunkirk, 2
Gothenburg, 1
Genoa, 27
Hamburg, 1 2 15 dms.
Harlingen, 3
Leghorn, 12
Libau, 39
New York, 39 62 pks.
Odessa, 98
Reval, 10
Rouen, 18
Rotterdam, 1
Trieste, 4

Pitch—
Antwerp, 455 t.

Rosin—
Bombay, 25 cks.

Tar—
Antwerp, 3 cks.
Genoa, 160 t.
Stettin, 2 cs.

Varnish—
Antwerp, 1 cs. 1 ck.
Cologne, 3 1
Danzig, 1 2
Dunkirk, 1
Gothenburg, 1
Genoa, 1
Stettin, 5

GLASGOW.

Week ending January 11th.

Acid—
Straits, 3 t. 6 c. £27.

Alkali—
Bergen, 3 c.

Ammonium Sulphate—
Calcutta, 5 t. 12 c. £79. 16s.
Nantes, 20 3½ £260
Hamburg, 141½ 1,838

Bleaching Powder—
Bombay, 44¾ c. £23. 19s.
Boston, 187¾ £88
Calcutta, 1,176 710

Boracic Acid—
Rouen, 2¾ c. £37

Borax—
Rotterdam, 21 cks. £180
Rouen, 78½ c. 123

Creosote Oil—
Cette, 545 t. 14 c. £1,180

Dried Blood—
Rouen, 25 t. 2½ c. £200

Farina—
Antwerp, £13

Glucose—
Cape Colony, 18 t. £275

Iodine—
Rotterdam, 25 c. £950

Linseed Oil—
Cape Colony, 74 c. £84
Calcutta, 112
Alexandria, 61¼ £62. 12s.
Malta, 36½ 41
Phillipines, 6 t. 53¾ 178

Manganese Oxide—
New York, 203 c. £105

Naphtha—
Rouen, 8 c. £367

Paraffin Wax—
Cape Colony, 134¾ c. £211
Venice, 6 t. 113¾ 160
Christiania, 1 32

Pitch—
New York, 26 t. 6½ c. £83
Cette, 530 16 477
" 1,200
Cadiz, 602 8 602
Chili, 40 t. 55
St. Nazaire, 900

Potash Salts—
Portland, 120 lbs. £66

Potassium Bichromate—
Italy, 101 c. £192
Bombay, 53¾ 100
Rouen, 228¼ 432

Potassium Nitrate—
Portland, 1¾ t. £26. 17s.

Recovered Manganese—
Hamburg, 41 c. £20

Salt Cake—
Antwerp, 297 t. 12¾ c. £295

Sheep Dip—
B. Ayres, 9 t. 17¾ c. £58
Rosario, 17

Sodium Bichromate—
Italy, 212 c. £340
Bombay, 52¾ £82. 18s.
Rouen, 288½ £460

Sulphur—
Peru. £5 15s.

Tallow—
Christiania, 4 c. £5
Amsterdam, 52 85

Tar—
Boston, 61 t. 13¾ c. £140

White Lead—
Cape Colony, 3 t. 2½ c. £43
Calcutta, 275 201

TYNE.

Week ending January 6th.

Barium Carbonate—
Odessa, 10 t.
Rotterdam, 50

Barium Hydrate—
Antwerp, 50 t. 16 c.

Bleaching Powder—
Antwerp, 12 t. 16 c.
Drontheim, 9 19
Gothenburg, 9 19
Rotterdam, 4
Newfairwater, 100 7

Caustic Soda—
Antwerp, 2 t.
Odessa, 95 10 c.
Batoum, 12 2
Arendal, 4 18
Christiania, 1 9
Genoa, 29
Huelva, 1
Leghorn, 6
Copenhagen, 9 16
Gothenburg, 60
Ghent, 5 8
Rotterdam, 12
Newfairwater, 10 3

Litharge—
Antwerp, 2 t. 13 c.
Copenhagen, 6
Danzig, 2 19

Magnesia—
Constantinople, 5 c.
Odessa, 8

Manure—
Jersey, 184 t. 3 c.

Naphtha—
Pomaron, 11 t. 9 c.

Soda Ash—
Ghent, 2 t. 2 c.
Ergasteria, 12
Newfairwater, 20 4

Sodium Hyposulphite—
Odessa, 2 t. 8 c.

Sodium Silicate—
Leghorn, 4 t. 8 c.

White Lead—
Copenhagen, 2 t. 12 c.

Zinc Ashes—
Antwerp, 2 t. 12 c.

GOOLE.

Week ending January 3rd.

Chemicals (*otherwise undescribed*)
Ghent, 10 cks.
Rotterdam, 15

Coal Products (*otherwise undes.*)
Boulogne, 3 cs.
" 30 cks.
" 26 tins.
Ghent, 11 dms.
Hamburg, 9 cks.
Rotterdam, 115

Dyestuffs (*otherwise undescribed*)
Ghent, 4 cks.
" 11 dms.

Manure—
Antwerp, 196 bgs.
Rotterdam, 500
Hamburg, 200

Pitch—
Dunkirk, 150 t.
Antwerp, 743

GRIMSBY.

Week ending January 6th.

Chemicals (*otherwise undescribed*)
Antwerp, 1 ck.
Hamburg, 17 30 cs.
Dieppe, 38

Coal Products (*otherwise undes.*)
Dieppe, 181 cks. 4 dms.

PRICES CURRENT. WEDNESDAY, JANUARY 17th, 18

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 116, PORTLAND STREET, MANCHESTER.

The values stated are F.O.R. at maker's works, or at usual ports of shipment in U.K. The price in different localities may va

	£	s.	d.
Acids :—			
Acetic, 25 °/₀ and 40 °/₀ .. .. per cwt.	7/6 & 11/3		
,, Glacial .. .. ,,	50/-		
Arsenic S.G., 2000° .. .. ,,	0	14	6
Fluoric .. .. per lb.	0	0	3¾
Muriatic (Tower Salts), 30° Tw. .. .. .. per bottle	0	0	10
,, (Cylinder), 30° Tw. .. .. ,,	0	3	0
Nitric 80° Tw. .. .. per lb.	0	0	1¾
Nitrous .. .. ,,	0	0	1¾
Oxalic .. .. nett ,,	0	0	3¼
Phosphoric, 1750° .. .. ,,	0	1	2½
Picric .. .. ,,	0	1	0
Sulphuric (fuming 50 °/₀) .. .. per ton	15	10	0
,, (monohydrate) .. .. ,,	5	10	0
,, (Pyrites, 168°) .. .. ,,	3	0	0
,, ,, 150° .. .. ,,	1	5	0
,, (free from arsenic, 145°) .. .. .. ,,	1	6	0
Sulphurous (solution) S.G. 1025 .. .. .. ,,	3	0	0
Tannic (pure) .. .. per lb.	0	1	2
Tartaric .. .. ,,	0	0	11½
Arsenic, white powdered .. .. nett per ton	13	10	0
Alum (loose lump) .. .. ,,	5	2	6
Alumina Sulphate (pure) .. .. ,,	5	0	0
Aluminoferric .. .. ,,	2	10	0
Aluminium .. .. per lb.	0	3	0
Ammonia, Anhydrous .. .. ,,	0	1	:
,, ·880=28° .. .. per lb.	0	0	3
,, =24° .. .. ,,	0	0	2¼
,, Carbonate .. .. nett ,,	0	0	3¾
,, Muriate .. .. per ton	25	10	0
,, ,, (sal-ammoniac) 1st & 2nd .. per cwt.	39/-& 37/-		
,, Nitrate .. .. per ton	44	0	0
,, Phosphate .. .. per lb.	0	0	10½
,, Sulphate (grey) London .. .. .. per tor	13	10	0
,, ,, (grey) Hull .. .. ,,	13	10	0
Aniline Oil (pure) .. .. per ib.	0	0	6¼
Aniline Salt ,, ... ,,	0	0	5¾
Antimony .. .. per ton	45	10	0
,, (tartar emetic) .. .. per lb.	0	1	0
,, (golden sulphide) .. .. ,,	0	0	10
Barium Chloride .. .. per ton	7	10	0
,, Carbonate (native) .. .. ,,	3	10	0
,, Sulphate (native levigated) .. .. .. ,,	45/- to 75/-		
Bleaching Powder, 35 % .. .. nett ,,	7	15	0
,, Liquor, 7 % .. .. ,,	3	10	0
Bisulphide of Carbon .. .. ,,	11	15	0
Chromium Acetate (crystal) .. .. per lb.	0	0	6
Calcium Chloride .. .. per ton	2	5	0
China Clay (at Runcorn) in bulk .. .. .. ,,	17/6 to 35/-		
Coal Tar Products and Dyes :—			
Alizarine (artificial) 20 % .. .. .. net per lb.	0	0	8
Magenta .. .. ,,	0	3	9
Anthracene, 30 % A, f.o.b. London .. per unit per cwt.	0	1	1
Benzol, 90 % nominal .. .. .. per gallon	0	1	5
,, 50/90 ,, ... ,,	0	1	6
Carbolic Acid (crystallised 40°) .. .. .. per lb.	0	0	6¼
,, (crude 60°) .. .. per gallon	0	1	8
Creosote (ordinary) .. .. ,,	0	0	2½
,, (filtered for Lucigen light) .. .. ,,	0	0	3
Crude Naphtha 30 % @ 120° C. .. .. .. ,,	0	0	8½
Grease Oils, 22° Tw. .. .. per ton	2	5	0
Pitch, f.o.b. Liverpool or Garston .. .. .. ,,	1	9	0
Solvent Naphtha, 90 % at 160° .. .. .. per gallon	0	1	4
"Lucigen" and "Wells Oils .. .. ,,	0	0	2½
Copper .. .. per ton	41	16	3
,, Sulphate .. .. ,,	15	10	0
,, Oxide (copper scales) .. .. ,,	40	0	0
Glycerine (crude) .. .. ,,	13	0	0
,, (distilled S.G. 1250°) .. .. ,,	43	0	0
Iodine .. .. nett, per oz.	0	0	9
Iron Sulphate (copperas) .. .. per ton	1	10	0
,, Sulphide (antimony slag) .. .. ,,	2	0	0
Lead (sheet) for cash .. .. ,,	10	10	0
,, Litharge Flake (ex ship) .. .. ,,	13	0	0
,, Acetate (white ,,) .. .. ,,	26	0	0
,, ,, brown ,,) .. .. .. ,,	17	10	0
,, Carbonate (white lead) pure .. .. .. ,,	20	0	0
,, Nitrate .. .. ,,	20	0	0

	£	s.	
Lime, Acetate (brown) .. .. per ton	6	15	
,, ,, (grey) .. .. ,,	10	10	
Magnesium (ribbon and wire) .. .. per oz.	0	2	
,, Chloride (ex ship) .. .. per ton	2	10	
,, Carbonate .. .. per cwt.	1	17	
,, Hydrate .. .. per ton.	17	0	
,, Sulphate (Epsom Salts) .. .. .. per ton	2	19	
Manganese, Sulphate .. .. ,,	17	15	
,, Borate .. .. per cwt.	2	12	
,, Ore, 70 % .. .. per ton	4	5	
Methylated Spirit, 61° O.P. .. .. per gallon	0	2	
Naphtha (Wood), Solvent .. .. ,,	0	3	
,, ,, Miscible, 60° O.P .. .. .. ,,	0	5	
Oils :—			
Cotton-seed .. .. per ton	22	0	
Linseed .. .. ,,	21	10	
Petroleum, Russian .. .. per gallon	0	0	
,, American .. .. ,,	0	0	
Phosphorus (yellow) .. .. per lb.	0	2	
,, (red) .. .. ,,	0	2	
Potassium (metal) .. .. per oz.	0	3	
,, Bichromate .. .. nett per lb.	0	0	
,, Carbonate, 90% (ex ship) .. .. .. per ton	16	10	
,, Chlorate .. .. per lb.	0	0	
,, Cyanide, 98% .. .. ,,	0	2	
,, Hydrate (Caustic Potash) 80/85 % .. per ton	21	15	
,, ,, (Caustic Potash) 75/80 % .. ,,	20	10	
,, ,, (Caustic Potash) 70/75 % .. ,,	20	0	
,, Nitrate (refined) .. .. per cwt.	1	2	
,, Permanganate .. .. per cwt.	3	5	
,, Prussiate Yellow .. .. per lb.	0	0	10
,, Sulphate, 90 % (ex ship) .. .. .. per ton	9	15	
,, Muriate, 80 % (do.) .. .. .. ,,	8	0	
Silver (metal) .. .. per oz.	0	2	
,, Nitrate .. .. ,,	0	2	10
Sodium (metal) .. .. per lb.	0	3	
,, Carb. (refined Soda-ash) 48 % .. nett per ton	5	5	
,, ,, (Caustic Soda-ash) 48 % .. ,, ,,	4	5	
,, ,, (Carb. Soda-ash) 48% .. .. ,, ,,	4	5	
,, ,, (Carb. Soda-ash) 58 % .. .. ,, ,,	4	2	
,, ,, (Soda Crystals) .. .. .. ,, ,,	3	0	
,, Acetate (ex-ship) .. .. ,,	16	0	
,, Arseniate, 45 % .. .. ,,	11	0	
,, Chlorate .. .. per lb.	0	0	
,, Borate (Borax) .. .. net, per ton.	28	0	
,, Bichromate .. .. ,, per lb.	0	0	
,, Hydrate (77 % Caustic Soda) (f.o.b.) net pr. ton (10 ton lots)	11	0	
,, ,, (74 % Caustic Soda) ,, ,, ,, (10 ton lots)	10	5	
,, ,, (70 % Caustic Soda) ,, ,, ,, (10 ton lots)	9	5	
,, ,, (60 % Caustic Soda) .. ,, ,, (10 ton lots)	8	5	
,, ,, (60 % Caustic Soda, cream) (f.o.b.) ,, (10 ton lots)	8	0	
,, Bicarbonate .. .. ,,	6	15	
,, Hyposulphite .. .. ,,	6	0	
,, Manganate, 30% .. .. ,,	16	0	
,, Nitrate (95 %) ex-ship Liverpool .. .. per cwt.	0	9	
,, Nitrite, 98 % .. .. per ton	29	10	
,, Phosphate .. .. ,,	15	0	
,, Silicate (glass) .. .. per ton	5	7	
,, ,, (liquid, 100° Tw.) .. .. .. ,,	4	5	
,, Stannate, 40 % .. .. per cwt.	3	0	
,, Sulphate (Salt-cake) .. .. per ton.	1	0	
,, ,, (Glauber's Salts) .. .. ,,	1	10	
,, Sulphide .. .. ,,	8	10	
,, Sulphite .. .. ,,	5	15	
Strontium Hydrate, 100% .. .. ,,	8	10	
Sulphocyanide Ammonium, 95 % .. .. per lb.	0	0	
,, Barium, 95 % .. .. ,,	0	0	
,, Potassium .. .. ,,	0	0	
Sulphur (Flowers) .. .. per ton.	8	0	
,, (Roll Brimstone) .. .. ,,	6	10	
,, Brimstone : Best Quality .. .. .. ,,	4	2	
Superphosphate of Lime (26%) .. .. ,,	2	7	
Tallow .. .. ,,	28	0	
Tin (English Ingots) .. .. ,,	78	0	
Tin Crystals .. .. per lb.	0	0	
Zinc (Spelter) .. .. per ton	16	5	
,, Chloride (solution, 96° Tw.) .. .. .. ,,	5	15	

THE

CHEMICAL TRADE JOURNAL

AND

OIL, PAINT and COLOUR REVIEW.

Publishing Offices: 32, BLACKFRIARS STREET, MANCHESTER.

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AND PERFUMERY AND ALLIED TRADES DIRECTORY, 1894.

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CURRENT TOPICS.

THE PERCENTAGE OF WATER IN BUTTER.

ABOUT twenty years ago, the excessive quantity of water contained in certain butters led to a number of prosecutions being made, which resulted in this ingenuous form of fraud practically disappearing. The matter seems, however, to have cropped up again, and during the last three weeks a number of summonses have been heard at the City Police Court, before the Stipendiary, the prosecutions having been instigated by the Manchester Corporation.

Water enters very largely into the composition of a great number of food stuffs, and people buy—even in tea, cocoa, meat, and eggs—a great deal of water, at a price which is high for such a plentiful commodity. To do otherwise would, however, be an impossibility. In other articles—such as spirits and tobacco—the presence of 25 and 35 per cent. respectively of water is legally permissible; but, in regard to milk and butter, the law sets no limit. Scientific evidence, however, goes to show that the analysis of a number of widely-collected and representative samples reveals the fact that an average percentage of water is not so very difficult to hit upon. With regard to butter in particular, some years ago the Society of Public Analysts came, after mature consideration, to the conclusion that 15 per cent. of water was a fair limit for a well-made butter. The analysis of Irish butters of the present day, which come from Ireland in large quantities, reveals that 21 per cent. of water is very often present, while in some cases the percentage runs as high as 29 or 30. Now, though no one in reason would object to buying butter with a fair percentage of water in it, you can have too much of a good thing; and when the door is opened to the possibility of having to buy butter which contains 100 per cent. more water than it need do, the good thing abounds very too-much abundantly. One of the most important cases which has been decided, has in another sense, not been decided yet, as the summons was dismissed, the vendor having been absolved from blame by a warranty. Proceedings have yet, however, to be taken against the firm who sold the butter with the warranty. The expert evidence given, has been plentiful, long, and rather conflicting; but one thing seems very evident, and that is that 15 per cent. of water is about a fair standard, as the majority express the opinion that 20 per cent. of water in butter is an excessive amount. The necessity of salt and water in butter to keep the same is not denied, but one eminent authority on dairy farming has gone so far as to designate so-called Irish "keeping-butter" as fat and pickle. Any good butter will keep if the right amount of salt and water be present, so that the attack upon the addition of excessive quantities of water is justifiable on behalf of the welfare of the general public, however it may conflict with personal interests.

WHAT IS FOOD?

The question is a difficult one. It can best be answered, perhaps, by enumerating the things which are not food. One

of these is baking powder. Though employed in the preparation of one of the staple-food stuffs – bread, it is not legally held to be a food itself. In the High Court of Justice this week, two eminent Justices have arrived at this decision. As a point of law, therefore, the decision is beyond doubt correct, but at the same time we have revealed to us one of the many intricate and witching subtleties of the Law. The question of whether a baking powder mixed with alum is injurious to health or not is quite ignored, having no standing when baking powder cannot be deemed a food.

The spirit of the Food and Drugs Act is well known, yet the real value of the Act seems, not to protect the public from fraudulent adulteration, or having presented for consumption, foods prepared with injurious ingredients, but rather to accomplish the drawing up of a categorical compilation of the various articles consumed by human beings, under the headings of foods or non-foods. The judgment in this case, which appears elsewhere in this issue, apparently shifts the *onus* from the vendor of the aluminous baking powder on to the shoulders of the person who uses it for sale. Again, we learn that foods are not merely those things which are made up in a drinkable and eatable form. Flour, butter, and salt are foods, "for, though no one would think of eating them alone, yet they are intended to be consumed by mankind." And what is baking powder but an article which no one would think of eating alone, and yet is intended for human consumption and *nothing else*, whatever the legal definition of a food may be? It certainly is used with this object quite as much as the salt which may be added to bread to please the palate. Salt is used as a chemical, a mineral, a preservative, and in other ways, besides as a food. Baking powder, no matter how prepared, is made solely to be employed in lightening bread, cake, or some kind of edible. Another argument against baking powder being a food, is that although it may contain rice, it is no more a food than a mixture of flour and a poison would be a food because the one ingredient flour is such itself. This being so, can a miller be prosecuted under this Act for selling, if he thinks fit, a mixture of a poisonous ingredient and ground wheat, calling the same self-raising flour or anything else he likes? It is not, according to the above, a food, so presumably the question must be answered in the negative.

Anyhow, the law as it stands now, states that baking powder is not a food, and we cannot get away from it; though it would be interesting in the extreme to have the matter pushed to a finality, and to have the decision of the Lords upon the point. But it is a far cry for a litigator of limited means from the Queen's Bench Division to the House of Lords.

PAPER-PULP MAKING TO THE FRONT.

During the week the Kellner-Partington Paper Pulp Company, Limited, whose English works are at Barrow-in-Furness, has been offering debentures to the value of £250,000. in four-and-a-half per cent. Debentures of £100. each, of which it appears the directors have taken up £100,000. The works of this company at Barrow are well known, and there are also works at Borregaard in Norway and Hallein in Austria. During the year ended the last day of September, 1893, the directors were able to show a net profit of £23,107. after allowing £21,500. for interest on loans, writing-off preliminary expenses, depreciation, etc. Out of this profit a dividend of 6 per cent. for the year was paid, so that this branch of the paper trade at least has life in it seemingly. Further extensions are, we understand, in progress, it being the intention of the company to apply the proceeds of the present debentures to the payment of the existing loans, and also to defraying the cost of the extensions now in progress. Th payment of interest will be made on October 1st pr other payments being made half-yearly.

BOILER EXPLOSIONS.

The sharp frost which prevailed during the early w the year caused an unusually large number of accident explosions of domestic boilers. In consequence, re without number appeared in the daily press, and eve was explaining, in addition, how things should *not* b Though we evidently have not quite done with fros scare seems to have passed and gone, and the chances a little, if any, good will have been gained from all the which has been given upon the prevention of accidents majority of accidents occur with boilers employed in heating systems. Many of these are high-pressure boile yet are utterly destitute of any adequate appliance t what the pressure in the boiler is. Good as much of the which has been offered undoubtedly is, it will however little use so long as water-heating systems are put i such persistent stupidity. While cisterns are put just roofs and against outside walls, and the connecting pi run outside the house in a position virtually inacc there will be trouble. If, on the contrary, only a littl thought was expended in arranging, as in nine cases ten it can be, that the cisterns are sensibly situated, pipes run through the house in such a manner that a of ordinary intelligence could follow them, there w less need for so many cures to be propounded, and s precautions prescribed. The cast-iron boiler migh with advantage be substituted by others of improv struction, as they now often are, but it is care in little which is most wanted. We have known even an otherwi arranged system, give a lot of trouble through the pipe to feed the cold water cistern having been taken point exposed to cold, but otherwise very difficult to Such systems can be made safe in the case of frosty weat vailing, and this is the annoying part of it to those w been victimised. To alter existing systems would be g a very expensive matter, but a little supervision u installation, we should think, would not be so s matter as the consequences of the unrestrained fre builders in this direction.

THE RECOVERY OF GOLD BY THE CY PROCESS.

A JOHANNESBURG paper, in reviewing the mining progr the past year, gives some particulars of the applicat cyanide recovery process to the treatment of "tailings." In e ing to estimate the cost of production per ton of gold, it i out that an estimate of the yield per ton does not, of course, i yield from the tailings, and the influence of the cyanide process by the fact that the increase in the yield of gold last year w derived from the tailings. The following figures show the of the weight and value of gold obtained by each process eleven months January to November inclusive :—

	oz.	dwt.	Va
Crushing mills	960,589	12 ..	3,47
Cyanide	267,046	12 ..	82
Concentrates.....	54,897	16 ..	21
	1,282,534	0	£4,50
Other sources (alluvial, &c)	49,585	0 ..	17
	1,332,119	0	£4,68

So important has the chemical branch of the Rand g industry become, that in the majority of mines, if the cr only pay ordinary expenses, dividends can be secured from on the manipulation of the tailings, provided, of course conducted on a fairly extensive scale.

Legal Intelligence.

HIGH COURT OF JUSTICE.

QUEEN'S BENCH DIVISION.

(Before Mr. Justice Hawkins and Mr. Justice Lawrance.)

JAMES V. JONES

THE withheld judgment in this case (*C. T. J.* 345, p. 419) was delivered by Mr. Justice Hawkins last Monday, who said:—The facts seem to be that on December 10th, 1892, James sold Jones a packet of Excelsior Baking Powder for making light and wholesome pastry and puddings, &c., without yeast. On the wrapper were directions as to how much to use and how to mix it. The object of using the powder was to diffuse carbonic acid gas through the dough so as to cause it to expand and render the bread, cake, or pastry when baked light and digestible. The baking powder contained 20 per cent. bicarbonate of soda, 40 per cent. alum, and 40 per cent. ground rice. Carbonic acid gas is contained in the bicarbonate of soda, and to liberate this gas properly a chemical combination of an acid with the bicarbonate of soda is necessary. To effect this combination alum is used, the ground rice being added to keep the two in good condition. The ground rice does not pass off with the gas, but remains in the bread. The alum and the bicarbonate of soda, however, assume another form, in which, when eaten with the bread, they are injurious to health The Sale of Food and Drugs Act, 1875, 38 and 39 V., c. 63, in its preamble recites the necessity for food being sold in a pure and genuine condition. Section 2 enacts that food shall include every article used for food or drink. Section 3 enacts that no person shall mix any article of food with any ingredient so as to render the article injurious to health with intent that the same shall be sold in that state. We are asked to say (1) whether the baking powder is an article of food within the meaning of the statute, and (2) whether James sold it to Jones mixed with an ingredient – to wit, alum—injurious to health. Section 3 creates two offences—mixing and selling—and it is the latter James is charged with. The sale of alum is in itself not an offence, even though the seller may know the buyer is going to mix it with bread, and therefore the fact that the alum is sold mixed with other things does not alter the position. No one would dream of using the ground rice contained in the baking powder as an article of food, as it is part of the mixture, injurious or otherwise. One might as well say that poison and flour in equal parts was "food" because flour is a food The test is whether the article when sold is an article of food or not. Though the purchaser, if he afterwards mixes it with intent to sell, may commit an offence, the vendor would not be committing one. We are clearly of opinion that the baking powder is not an article of food, and neither the sale of it nor the admixture of it with an article of food, unless such article is intended for sale, is an offence For his own use anybody may use it, and, that being so, it would be strange for the vendor to be liable to penalties. We do not, however, mean to convey it as our opinion that nothing can be deemed to be an article of food unless made up into an eatable or drinkable form, such as flour, butter, salt, mustard, pepper, &c., for although no one would dream of eating them alone, yet they are intended to be consumed by mankind. We think the Court of Quarter Sessions was wrong in treating baking powder as an article of food. It is unnecessary to answer the second question. The order of the Quarter Sessions and the original conviction must be quashed

(Before Mr. Justice Day and Mr. Justice Lawrance).

NEWBY, *Appellant:* SIMS, *Respondent*—THE SAME V. THE SAME.

These were two cases under the Adulteration Acts of 1875 and 1879, both relating to sales of spirits adulterated with water, the first being a case of rum, the other of whisky, and both raising the question whether, under the Act of 1879, it is necessary that the analyst's certificate should show that the excess of water was such as to reduce the spirit more than 25 per cent. below "proof," as the Court, it will be seen, held. The Act of 1875 provides (section 18) that the certificate of the analyst shall be in the form given in the schedule or to the like effect; and (section 21) that at the hearing of the information on any such proceeding, the production of the certificate of the analyst shall be sufficient evidence of the fact therein stated, unless the defendant shall require that the analyst shall be called as a witness. Then the form of certificate given in the schedule is this:—"I, the analyst, do certify that I received a sample, &c., and I declare, &c., and I am of opinion that the sample contained the ingredients (or parts) as under, or the percentages of foreign ingredients as under." The certificate in the present case was—"That on August 1, 1893, I received from the inspector a sample of rum for analysis, and that I have analysed it, and find that the sample contained an excess of water above what is allowed by Act of Parliament, and I estimate the excess is 13 per cent of the sample, and I consider it is not a sample of genuine rum." There was, it will be seen, no reference to the statutes defining what is to be deemed pure spirit. It was objected, for the defendant, that there was no proof that the certificate was not in the form given in the Act; and the magistrates, being of opinion that the analyst's certificate, by which he "estimated" the excess of water at 13 per cent., was not sufficient evidence to justify a conviction, therefore dismissed the information, but stated a case, on which the question of law was, "Whether the justices were right, having regard to the language of the certificate, in dismissing the information," on which the inspector appealed. The Act of 1879, section 6, says that in determining whether an offence has been committed by selling to the prejudice of the purchaser spirits not adulterated otherwise than by the admixture of water, it shall be a good defence to prove that such admixture has not reduced the spirit more than 25 degrees under proof for brandy, whisky, or rum, or 35 degrees under proof for gin. But this statute nor the older statute as to "proof" spirits were not referred to on the hearing.

Mr Justice Day, in giving judgment on Wednesday last week said: I am clearly of opinion that we must support the decision of the magistrates, though not on the grounds given by them. I think the grounds they gave were insufficient, but nevertheless their decision was right in the result. The object of the Adulteration Acts, as to articles of food especially, is most valuable, but we must see that in any particular case the offence charged is proved. In the present case the analyst's certificate was the only evidence, and the whole question, therefore, is whether, on the face of the certificate, it appears that the offence was proved. Now, the certificate is entitled under the Act of 1875, and there is no reference to the Act of 1879, and it does not appear that the analyst was aware of it. He proposed to give the certificate only under the Act of 1875. He states in it that he has analysed the sample of rum, and finds that it contains an excess of water over and above what is allowed by Act of Parliament, and he estimates the excess at 13 per cent, and then he states as the result that it is not a sample of genuine rum. Now, that is defective, not upon the grounds given by the magistrates, that the analyst gives an "estimate" of the excess of water, for it is necessarily an estimate or a matter of calculation, and the expression is appropriate, but because it states only an "excess" of water without any reference to the statutory definitions of "excess" under "proof." Before the Act of 1875 the word "proof" was in use, having arisen under the Act of George III., in which the definition of "proof" spirits was given—that is, broadly, nearly 50 per cent. of alcohol and a trifle over 50 per cent of water, very nearly "half-and-half." The Act of 1875 left it quite uncertain what was to be deemed pure spirit; it was left to be determined by the magistrates on some popular notion of it. But the Act of 1879 contains a specific enactment on the subject, that adulteration by water must be more than 25 per cent. below proof; that is, that in determining whether there has been adulteration of spirits by water it must appear that the admixture of water has reduced the spirit more than 25 degrees below proof. Now, in the present case the analyst does not state that, but only states that there is an excess of water over what is allowed by Act of Parliament. That is, he states his conclusion as to the law. Then he goes on to say that he estimates the excess at 13 per cent. of the quantity of the sample. But that would be much less than such a quantity as would reduce the spirit more than "25 degrees below proof." He finds generally an excess; but an excess over what? That he does not state He only states, "An excess over what is allowed by Act of Parliament." But that was for the magistrates to determine, and he ought to have stated what the quantities of spirit and of water in the sample were, and then left it to the magistrates to determine. Upon this ground, said the learned judge, I am of opinion that the certificate was insufficient, and that, therefore, the magistrates were right.

Mr. Justice Lawrance said he was of the same opinion. The magistrates, he thought, had come to the right conclusion, though it was not so on the grounds they had given. The certificate of the analyst did not show that the offence had been committed; therefore they were right in dismissing the information.

The appeal was accordingly dismissed.

SUPREME COURT OF JUDICATURE.

COURT OF APPEAL.

(Before Lord Halsbury and Lords Justices Lopes and Davey)

G. DEAKIN AND CO. *v.* THE SALT UNION, LD.

This was an appeal from an order made by a Divisional Court on the report which they referred back to the official referee in an action brought against the Union by G. Deakin and Co., (*C. T. J.*, 342 p. 371). This firm by their action, complained that whilst the Union had agreed to pay them as distributors and agents a commission not less than they paid to other distributors, nor to charge them higher prices for their Union's particular brand of salt than was charged to others; they had broken both covenants, and allowed a firm of Ashton and Sons 5 per cent. commission as compared with 2½ per cent. paid the plaintiffs. They had also sold salt to a Runcorn undertaking at a lower price than

they charged plaintiffs. The action having been referred to the official referee, his decision in favour of plaintiffs was challenged before the Divisional Court, who on a point of law referred his report back to him for reconsideration. The present appeal against this was based by Sir Henry James, Q.C., on the ground that the higher commission was for work done dissimilar to that performed by the plaintiffs, and as to the sales to the Runcorn Company, that they were made to a firm whose undertaking the Union had taken over, and as part of the transfer had covenanted for thirty years to supply their alkali works irrespective of variation in the market with a particular kind of salt for their own use, and not for distribution in the ordinary sense. The arguments had not concluded when the Court rose.

THE POLLUTION OF THE GORE BROOK.

BEFORE Mr. Leresche and other justices, at the Manchester County Police-court, recently, the Lord Mayor, Corporation, and Burgesses of Manchester were summoned by the Mersey and Irwell Joint Committee for allowing and knowingly permitting liquid sewage to fall into the Gore Brook and rivers Mersey and Tame, at Gorton, on December 5th and other dates. Mr. Sutton appeared for the Committee and Mr. Rhodes for the Corporation. Counsel for the former explained the Act of Parliament on the matter, and added that a great deal of proceedings had been taken against local authorities in regard to the pollution of rivers and streams in the jurisdiction of the Committee, and on the whole they had been fairly met with by such authorities. There was an exception, however, as regarded Manchester Corporation, principally, it would seem, in consequence of a conflict that authority had with the Audenshaw Local Board as to who was liable to do the necessary work. At last it had been found necessary to institute the present proceedings. There was a Dick Lane Brook which arose in Audenshaw and ran through into Gorton, where it became the Gore Brook, which in turn communicated with the rivers Tame and Mersey. There was certain land at Gorton the sewage of which drained into the Gore Brook, and for this they were charged with allowing the brook to be polluted. As the Local Board of Audenshaw had powers to turn their sewage into the same brook, the Corporation were also charged with knowingly permitting the inflow of the sewage. —Mr. Rhodes said that the Corporation, who had been treated very unfairly, had offered to take their sewage out of Gore Brook.—Mr. Sutton replied that the Corporation were responsible for the Audenshaw sewage in question, and the Committee had nothing to do with the claim of that authority on Manchester.—Mr. Rhodes contended that Manchester was not responsible to Audenshaw, and offered to submit to an order in regard to the summons "for allowing." Mr. Rhodes then read a heap of correspondence between the Manchester Corporation, the Audenshaw Local Board, and Messrs. Lomax and Lomax, engineers, in a proposed joint scheme of drainage between the parties, which showed that throughout Audenshaw had never set up the legal responsibility of Manchester to deal with the sewage of Gorton Brook. —Mr. Sutton remarked similar proceedings had to come before the Ashton magistrates against Audenshaw, and, at the suggestion of the Bench, the case was adjourned till February 8th.

SULPHATE OF AMMONIA SATURATORS.

NO one who has had an extended experience of sulphate of ammonia making, and has seen it carried on at different works and in different localities, can fail to have been struck by the sundry and divers forms assumed by that very important item of a sulphate plant, the saturator.

A few days ago we had an opportunity of seeing a saturator made by Messrs. Joseph Taylor and Co., of Bolton, for a firm of sulphate makers in the South of England, and so excellent was the workmanship that we are sure sulphate makers would do well to see a specimen of Messrs Taylor's work before putting in a new plant. This saturator was made of solid plate lead throughout, a timber framing being altogether dispensed with. The sides, top, and midfeather were 1 inch thick, and the bottom 1⅝ inch thick. A speciality of the construction is that there are only two vertical seams, and in this case the term seam is scarcely applicable, as the junction of the midfeather with the side sheets partakes more of the nature of a solid lead casting than of what one ordinarily understands by a seam. The formation of this solid lead junction is so controlled by the use of chills (instead of sand) as to produce a perfectly dense finish, very different from the honeycombed surfaces that one often sees in work of this kind. The saturator complete weighed close upon three tons, including ammonia pipe, man-lid, and acid-pipe.

CHOLERA PREVENTION.—The Berlin Board of Health is now discussing the introduction of a system of large water filters as a protection against an invasion of cholera.

THE RIDDELL FILTER.

THE principle of this filter was explained in our columns la when particulars were given of the successful application system to the filtration of works effluents.

We now purpose to supplement the information we have given with a few remarks upon the treatment of sewage by t aluminoferric, and the Riddell system of mechanical filtr introduced by Messrs. L. H. Bristowe and Company.

In our illustration of last week we were unable to show th adopted to collect the filtered water from the bottom of the f of sand, and to also prevent any sand escaping with the effluen two sectional elevations which we illustrate clearly indicate is accomplished. On to the collecting pipes distributed over the of the filter, a number of hollow spheres closely perforated wi are fastened, the same being about two-thirds full of lead When the washing operation is in progress a portion of the wa which enters from the bottom of the filter, lifts the shot in the iron balls, and speedily finds its way into the bed, rising throu scouring the same.

When the reverse process takes place, and the downward f of the sewage commences, the shot, by reason of their greater gravity, immediately fall to the bottom of the ball-shape effectually checking the escape of any sand while allowing the water to escape through the interstices

This sort of sand valve as it were is singularly effectual, it been found that the loss of sand in a filter working for a nu years is practically nil.

This simple but effective means of separating the filtered wa the filtering medium is an important feature of the filter, as op the methods which have to be adopted in some filters; as the f of corrosive effluents can have little or no effect upon the filte wear and tear being very small, which would not be so if pe copper plates had to be used, as is sometimes the case.

An installation for the treatment of a portion of the Salford se been put down recently by Messrs. Bell Bros., of Lower Brought Manchester, at the sewage works of the Corporation, in con with whom we saw the plant in operation.

The raw sewage as it enters the works is pumped into the fi requisite quantity of aluminoferric (which has been found to l one pound to the 1,000 gallons), being mixed with the sewag form of a solution at each stroke of the pump. The sew treated passes through the filter at the rate of 4,000 gallons giving a bright effluent perfectly free from suspended matter following figures give an idea of the purification effected, an effluent is neutral there is little danger of subsequent putrefactio raw sewage contained in parts per 100,000—free ammonia, 4 albuminoid ammonia, 0·94; and absorbed oxygen, 35·2. The effluent was free from smell, and bright, giving on analy ammonia, 2·28 parts, as above; albuminoid, 0·28; and a oxygen, 10·4. Such results cannnot be considered otherwi satisfactory, if not highly so It is not advisable to speak hur any sewage treatment system, but this method certainly promi so far.

When the filter bed has become clogged the washing proce sorted to, this operation being necessary about once every si and occupying from six to seven minutes. The wash-water is a tank, where the sludge rapidly settles, leaving a supernatant wash-water almost clear. The amount of water required for is but a very small percentage of that actually filtered, wher some filters the percentage is excessively high.

PROSECUTION UNDER THE ALKALI, E WORKS REGULATION ACT.

WE learn that a prosecution has been instituted by th Inspector under the Alkali Act against the Phospho Company, at Seacombe, for a contravention of Clause 9 of t which provides that the owner of any registered works "shall best practicable means for preventing the discharge into the atm of all noxious gases evolved in such works."

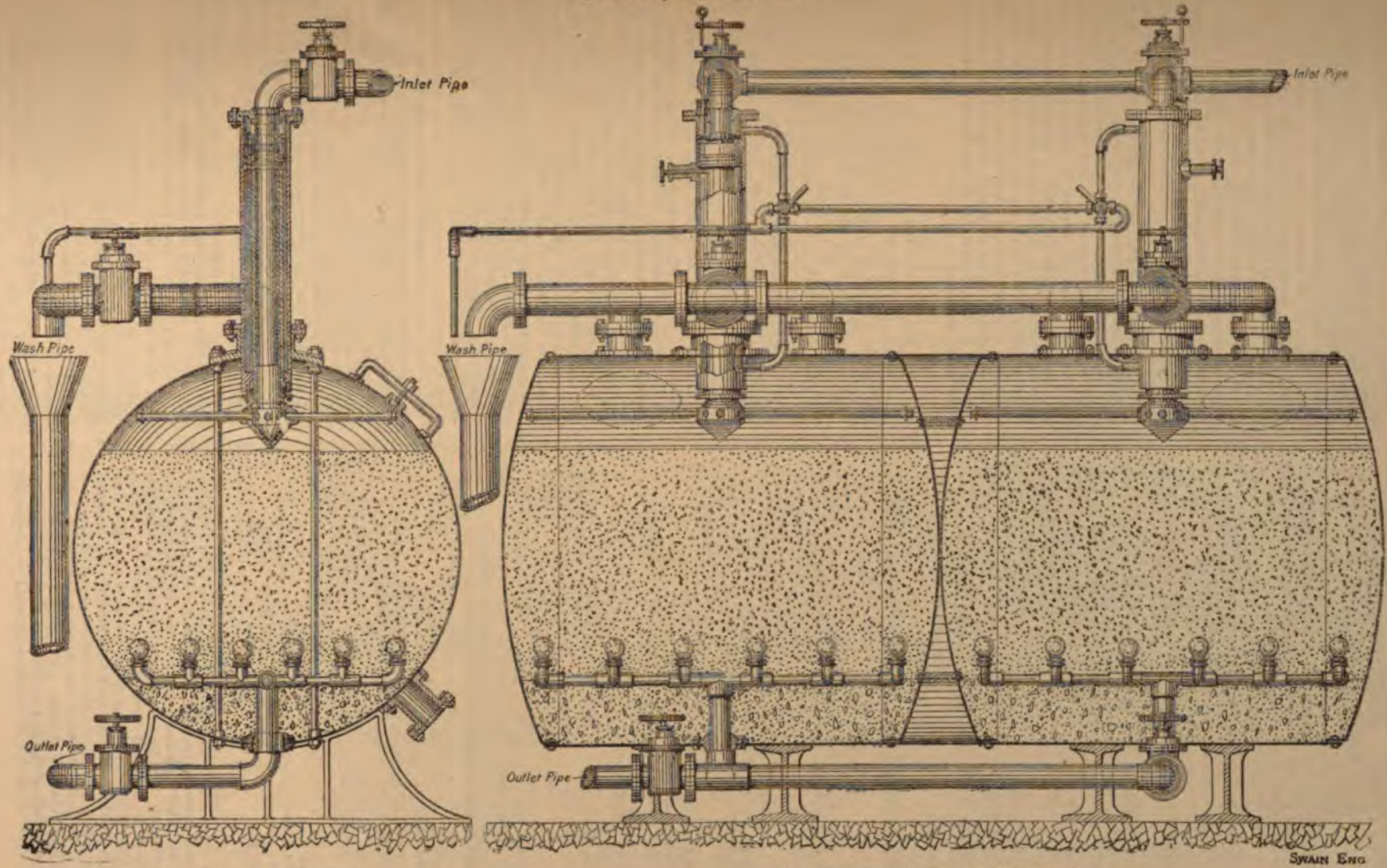
It appears that on December 6th last, Mr. Ballard, the Inspector, when visiting the works, found that the operation o sulphuric acid with ground mineral phosphate was going on, a owing to a temporary derangement of the water supply, n flowing through the wash tower. The acid gases discharge the operation were therefore let loose upon the surrounding causing great nuisance over a considerable area.

In instituting the prosecution an action was brought in the Court for the recovery of the penalty of £20, as provided in th Act. On receiving the summons, however, the defenda promptly paid the fine and costs, and thus saved the publicity in open court.

THE RIDDELL FILTER.

SHEWING STRAINERS, INDICATING RODS ON HYDRAULIC PISTON, AND GUIDE RODS FOR SPRAYING ARMS

[*For description see page 68.*]



TRANSVERSE SECTION.

LONGITUDINAL SECTIONAL ELEVATION.

Official Memoranda.

(From the Board of Trade Journal.)

MODIFICATIONS OF SPANISH IMPORT DUTIES.

The following is an abstract of the new Spanish Customs tariff which will exist under the Swiss-Spanish Treaty :—

Articles.	Rates Recently Levied.	Rates now Leviable.
	pes. cts	pes. cts.
Dyeing Extracts	100 kilos. 7·80	100 kilos. 5·00
Prepared Colours	,, ,, 25·60	,, ,, 25·60
Coal Tar Dyes—		
Powder or crystals	Kilog. 2·50	Kilog. 1·50
Paste or liquid	,, 2·50	,, 0·50
Ammonium Sulphate	100 kilos. 1 50	100 kilos 0·25
Indigo	,, ,, 45·00	,, ,, 15·00
MODIFICATIONS UNDER THE SPAIN AND NORWAY TREATY.		
Wood Pulp	100 kilos. 1·0	100 kilos. 1 0
Fish Oil and other Animal Fats	,, ,, 1·0	,, ,, 1·0
Guano and other Natural Manures	,, ,, 0·5	,, ,, 0 5

PROPOSED NEW UNITED STATES TARIFF.

Articles.	Present Rates.	Proposed Rates.
	dols. cts.	dols cts
Roman and other Hydraulic Cements	100lbs. 0·08	100lbs 0·08
,, ,, in bulk	,, 0·07	,, 0 07
Other Cements	20% *ad val.*	10% *ad val.*
Lime, including weight of package	100lbs 0·06	10% *ad. val.*
Mechanical Wood Pulp	Ton dry wt 2·50	10% *ad. val.*
Chemical ,, ,, unbleached	,, 6·10	
,, ,, ,, bleached	,, 7·00	
Paper Stock, all kinds	Free.	Free.
Salt in packages	100lbs. 0·12	Free.
,, bulk	,, 0·08	
Coal-tar preparations—		
All Coal-tar Colours or Dyes, by whatever name known	35% *ad. val.*	*ad. val.*
All preparations of Coal-tar, not being colours or dyes, not specially tariffed	20% *ad. val.*	Free.
Bicarbonate of Soda	Lb. 0·01	Lb 0·00½
Caustic Soda	,, 0.01	,, 0·00½
Soda Ash	,, 0·00¼	,, 0·00¼
Soda Crystals	,, 0·00¼	,, 0·00⅛
Bleaching Powder	Free.	Free.
Chromate and Bichromate of Potash	,, 0·03	20% *ad. val.*
Nitrate of Potash or Refined Saltpetre	,, 0·01	Lb, 0·00½
Sulphate of Magnesia	,, 0.00$\frac{3}{10}$	Free.
Ammonia, Carbonate of	,, 0 01¾	Free.
Sal-Ammoniac	,, 0·00¾	
Sulphate of Ammonia	,, 0·00½	
Borax, Refined	,, 0 05	20% *ad. val.*
White Lead	,, 0·03	30% *ad. val.*
Red Lead	,, 0·03	35% *ad. val.*
Litharge	,, 0·03	30% *ad. val.*
Sulphur, Refined	Ton 8·00	Free.
Do., Sublimed or Flowers of	,, 10·00	20% *ad. val.*
Sulphate of Iron	Lb. 0 00$\frac{3}{10}$	Free.
Sulphate of Copper	,, 0·02	Free.

DEPRESSION IN THE GERMAN CHEMICAL INDUSTRY.

Firstly, as regards America, business in general, but in particular the textile industry, has suffered by reason of the uncertainty as regards the action of the Legislature. The export figures published by the different American consulates in Germany show a great diminution ; such is particularly the case for the chemical products industry, as may be seen from recent reports by the American consuls at Frankfort-on-the-Maine and Mannheim. The large factories of chemical products have, as is well known, as their chief customers the weaving works and, more particularly, the dye works and printing works, etc., and when these are effected the chemical products industry sees its principal market closed, and there is no doubt this is precisely what is happening now.

What has been said about America might be urged with reason about England ; the great export industry which, in impart the latest improvements to manufactured products, imaginable kinds, uses large quantities of German chemical p has been considerably affected by the monetary condition of I the situation of America, and, in an equal degree, by the strikes that have taken place in the coal trade. With re Russia, the door is closed, and that country is at present supp the large factories of Bâle. The Swiss factories also produce patented specialties of the large German companies. By reas general depression of business and a commercial crisis such as e present, the chemical industry, as one of the most important in of the Empire of Germany, must suffer. The reason of such porary stagnation in the export of products is extremely diff discover, and it is impossible to express an opinion on the su the influence exercised by the present state of affairs on the yields of the large joint-stock companies. These large establis have, in fact, many specialties which secure them good return are well managed in every way and provided with sufficient ca that a temporary depression in trade does not produce changes in the producing power of these establishments By re the critical condition of business and the difficulty in finding m competition has become keener in connection with a reduc prices. Some factories of chemical products have much diffic keeping in full work ; they seek to attain this end by offerin goods at a very cheap rate. Prices for most of the principal go extremely depressed.

MARGARINE PRODUCTION OF DENMARK.

The use of margarine as an article of food tends continu increase. During the year ended March 31st last the nu factories had increased from 16 to 19, giving a total out 17,945,228lb. avoir., of which 11,139,779lb. were produced in by eight factories. In addition to the home production 2,096 were imported from abroad, principally from Norway. Alm whole of this 19,000,000lb. of margarine is consumed in the c the exports being insignificant, amounting only to 15,029lb., o the bulk, 13,580lb., was foreign margarine returned. The lar of the oleomargarine used in this manufacture, amounting to 9,694, was imported

The manufacture of margarine cheese shows a considerable During the year there were taken by the officers of the cont samples of butter, 127 of margarine, and 46 of cheese.

The whole of the butter samples proved to be free from an teration, and the samples of margarine to contain the declared of butter fat. The infringements of the law were merely with to the proper labelling of parcels and receptacles.

In this connection it may be useful to repeat that, by Sectio the Margarine Law of 1891, it is enacted that "In places where is worked up for sale, where butter is packed or collected for there must not be found either margarine or oleomargarine."

The penalty for infringement of this section is imprisonment without fraudulent intent, fines from 50 to 4,000 kroner.

When it is remembered that these regulations are rigidly enfo experienced officers employed in the work of inspection, a su guarantee is afforded of the purity of Danish export butter.

NEW TABLE OILS.

The United States Consul at Stuttgart states that on accoun great expense and difficulty in procuring pure olive oil for tab poses, there have been many attempts made in Germany to p from other substances than the olive an oil which, having all th ties that recommend the olive oil, could be sold at a lower price.

In southern Germany for some years past oil has been produce the beechnut. It has given great satisfaction, but has not co general use because the production has been small and the oil ha been pushed on the market. One reason why more has not bee in the production of this beechnut oil has been the great scarcity nut in certain years.

The beechnut contains but 22·77 per cent. of oil, but wh nuts are plentiful, the ease with which they can be gathered, that there is absolutely no other expense except the pressing, a good prices that have been received for the oil have made the tion of the oil very profitable.

It is only of late that the seeds of the linden tree have been u the production of oil. According to the report of Dr. C. Müller German Botanical Society, this oil has a number of excellent qu which would appear to make it certain that the linden seed wi after be considered one of the principal sources for obtaining ta The linden tree is a regular bearer, so that a large quantity of se be counted upon each autumn. The percentage of oil in the seed is given as 58. It is maintained that the oil has a peculia flavour—free from all bitter or aromatic taste—and that it

appearance of olive oil. It belongs also to the oils which do not evaporate.

Oil made from linden seed will never become rancid. It has no tendency to oxygenate. It will stand a great degree of cold without freezing. Dr. Müller has exposed it to 3° F. below zero without being able to notice any change.

THE OZOKERITE INDUSTRY OF GALICIA.

Ozokerite was discovered about 30 years ago in some petroleum wells in the Austrian province of Galicia.

The soil extracted from these wells was originally thrown aside, and as it was very oily and could not be heaped up, it was a source of considerable expense to the miners, who did not know how to get rid of it. It was only as a result of the discovery of a layer 15 centimetres in thickness of a yellowish matter, resembling bees wax, that a chemical analysis, made by a Lemberg chemist, demonstrated its value A factory was immediately erected to treat the materials thrown aside, and very soon the working of petroleum was completely abandoned in favour of the working of ozokerite.

The value of this wax exceeded, in fact, in the first years of its working £50. per ton, and it was met with at a depth of 25 metres, in veins up to 35 centimetres in thickness.

But the abundance of the product having caused a fall in its price, and the superficial beds being exhausted, it was necessary to improve the methods of working, and to form companies so as to develop the means of action. At the present time the centres for working the wax at Boryslaw do not exceed 30 in number, with a product reaching 10,000,000 kilogrammes (about 10,000 tons) of wax, representing a value of about £230,000.

The greater part of the raw product is treated in the district of Boryslaw by four or five works, which purify the wax or change it into paraffin or pharmaceutical products; the surplus production is sent in an unprepared state to all countries in the world, including America, which possesses little ozokerite

The value of the mineral wax taken at the mine is from £2. 6s. 8d. to £2 13s. 4d. per 100 kilogrammes (220 lbs.) according to its degree of purity, and these prices will be maintained whilst Boryslaw remains the only place where this article is found in sufficient quantities to allow of a regular and remunerative extraction. Ozokerite is found throughout the whole district, but the lands where it may be profitably worked, and, for a considerable extent, are limited to an area of 100 hectares under Boryslaw itself.

THE SCANDINAVIAN NICKEL INDUSTRY.

From 1848 to the end of 1892 about 330,000 metric tons of nickel ore, were extracted in Norway. The maximum yearly output (42,500 tons) was made in 1876. Since that time the production has been only 5,000 to 7,000 tons per annum. The average nickel contents of the ore have been as follows: 1851—60, 20 tons; 1861—72, 45 tons; 1873—76, 245 tons; 1876, 360 tons; 1877—80, 100 tons; 1881—85, 125 tons; 1886—92, 105 tons.

In some mines rich ore, although in small bodies, has been found, as, for example, at Beiern, ore with an average of 7 per cent. nickel (nickel-bearing pyrite and pyrhotite); and in other places with an average of about 5·5 per cent nickel. In the better mines first class smelting ore with 3·5 to 4 per cent. nickel can often be sorted out, but the grade of the bulk of the ore is much lower. In 1870 miners were satisfied with a yield of 0·8 to 1·3 per cent. nickel from the smelting ore the actual assay of which was 0·9 to 1·5 per cent. In later years, when only the richer mines have been operated, and hand-sorting has been practised with more care, the yield has increased, varying from 1·4 or 1 5 per per cent. nickel, at least, to 2·5 per cent., with an average of 2 per cent.

In the best mines the cost of producing one ton of ore, assaying about 2 per cent. nickel, varies from 1·67 dols. to 3·09 dols., averaging 2·38 dols. One kilogram of nickel in ore, therefore, costs 10 71 to 14·28 cents (the small amount of copper contained in the ore being reckoned free), while in some mines operated on a large scale the cost may be as low as 7·14 to 9·52 cents. If modern metallurgical methods were introduced, the Norwegian nickel industry could doubtless attain considerable proportions.

The nickel contained in ores produced in Sweden from 1866 to 1875 averaged 65 to 70 tons per annum; since 1886, however, it has been only 10 to 15 tons per annum.

A FATAL ACCIDENT.—A scaffold accident occurred in the Hardshaw Brook Works of the United Alkali Company, Limited, at St. Helens, recently. Three men, named Richard Ellison (single), John Divesley (married), and James Colquitt (married), were working on a scaffold roofing of a new building, when by some means it gave way, precipitating them to the ground, a distance of 30 ft. All were badly injured. Ellison died in the hospital shortly after admission. A fourth man, named Richard Norris, had a narrow escape.

THE MERSEY AND IRWELL JOINT COMMITTEE.

A SPECIAL meeting of this Committee was held on Monday last, at 11 a.m., at the Offices, Mosley-street, Manchester, to hear a number of cases in which cause was to be shown why proceedings should not be taken for pollution of the rivers Mersey and Irwell under the Joint Committee's Act of 1892.

Thirty-nine manufacturers were invited to attend, but of these 21 sent a written undertaking to complete works in three months, and so did not appear. Of those who appeared, several gave an undertaking to have works in operation within a period of three months.

Several of the effluents dealt with were of a very polluting character. For instance, in one case an effluent was very alkaline, and contained 237 grains to the gallon of solid matters. In another the total solids amounted to 6,000 grains per gallon. The waste water from the barrel washing department of breweries constituted another serious source of pollution. Dye and colour works also contributed in no small degree to the general pollution of the rivers. It is a noteworthy fact that very few of these waste waters are allowed to be turned into the sewers, and those who count upon thus getting over the difficulty of disposing of their waste waters, are likely in the long run to have resort to some treatment themselves, on their own account. To summarise out of the whole thirty-nine cases, twenty-seven undertook to complete works in three months' time; ten cases were for various reasons adjourned one month; one firm was found to have filed a petition in the Bankruptcy Court; and in one other case, that of E. Barlow, bleacher, Stand-lane, Whitefield, it was decided to apply to the Local Government Board for permission to prosecute.

THE GAS SUPPLY OF LONDON AND LEEDS.

LONDON.

THE quality of the gas supplied to the City of London for the week ending January 13th, 1894, was good. According to the report of Mr. W. J. Dibdin, chemist and superintendent gas examiner to the London County Council, the tests made at the various testing stations showed no deficiencies in illuminating power. The following figures have been prepared from the report, and show the average composition of the gas calculated on the mean test:—

Company.	No. of districts tested.	Illuminating power (in stand. sperm candles). Mean average.	Sulphur. Grains in 100 cb. ft. Mean average.	Ammonia. Grains in 100 cb. ft. Mean average.	Sulphuretted hydrogen.
Gas Light and Coke Co.	12	16·37	11 85	0·35	Nil.
South Metropolitan Gas Co.	5	16·42	12·72	0·28	Nil.
Commercial Gas Co. .	2	16·40	10·20	0·40	Nil.

The standard gas supplied by these companies should have an illuminating power of 16 sperm candles, and contain not more than 22 grains of sulphur and 4 grains of ammonia per 100 cub. ft. of gas, on an average of three days, with a pressure of one inch between sunset and midnight, and six-tenths of an inch between midnight and sunset.

LEEDS.

According to the report of Mr. T. Fairley, Esq., F.I.C., gas examiner for Leeds, the total proportion of sulphur contained in the Leeds gas during the month ended January 11th, 1894, has averaged 16·93 grains per 100 cubic feet. The following are the results of tests made at the Works in grains per 100 cubic feet:—

Place.	Date when Tests were made. Dec. 1893.	Jan. 1894.	Total Sulphur.	Ammonia.	Carbonic Acid. Weight.	Volume.
Meadow Lane....	22, 29.	3, 8.	13·40	0·81	57·05	0·07
New Wortley	21, 28.	4, 11.	21·15	0·83	81·50	0·10
York Street	20, 27.	2, 9.	10·98	1·39	73·35	0·09
Average at Works	..	..	16·93	0·91	73·35	0·09
Average at East Parade	..	..	18·73	0·61	73·35	0·09

During the month the average illuminating power of the Leeds Gas tested at 17, East Parade, the tests being calculated to a uniform consumption of 5 feet per hour, and corrected for variations in temperature and pressure to a temperature of 60° Fahr. and a barometric pressure of 30 inches, has been in standard candles (burning 120 grains of sperm per hour):—Standard argand, 24 holes, 18·3; standard batswing, 18·0; Sugg's illuminating power meter, 18·2.

Correspondence.

ANSWERS TO CORRESPONDENTS.

M. AND C.—It shall be forwarded.

N. J. F. AND CO.—We shall be pleased to communicate further with you.

M. A. AND CO., LD.—We will give the matter our attention.

G. H. (Bath).—We are doing our best to ascertain whether it is so or not, and will let you know in the course of a post or two.

J. C. AND SONS.—The names will be sent you as soon as possible.

W. B. AND CO. (Rotterdam).—Thanks for information duly received

J. J. E.—1. No; we do not know of any. 2. Our advertisement columns would most probably give you all the information you seek.

R. S.—No; the price is the same as usual.

NUNQUAM.—Yes; one penny each from the Government Printers, East Harding-street, E.C.

COMPANY FLOATING EXTRAORDINARY.

AT the Manchester Bankruptcy Court, on Tuesday last, before Mr. Registrar Lister, Robert Ashworth, a bleacher and dyer at Littleborough and in Manchester, came up for public examination. His statement of affairs showed liabilities amounting to £1,976., and his assets are returned at £10. In answer to Mr. Dibb, the official receiver, the debtor stated that up to 1890 he was in the employment of his father, who traded as a bleacher and dyer. On his father's death in November of that year he took over the business, and carried it on till August, 1893, when he turned it into a limited company. When he took over the business from his father it was not in a solvent condition. He tried to sell the bleaching part of the business, first for £6,000, and then for £3,000, but was unable to do so. In February, 1893, he tried to turn the concern into a limited liability company. The price was to be £2,500. The attempt was not successful. In April he tried again, fixing the price this time at £5,000. This second attempt was also unsuccessful. In August another prospectus was issued, in which the price was fixed at £15,000. On this third occasion he succeeded in floating the company. The assets the company took over were the same as those offered in February for £2,500. One clause in the agreement stipulated that the vendor was to be managing director of the new concern at a salary of £1,000 a year. At the time of the transfer there was a bill of sale on the property, to pay off which a sum of about £500 was borrowed. Difficulties had since arisen with regard to this bill of sale, and the debtor understood that the company intended to abandon their claim to the property.

The Registrar said it seemed to him that this was an abominable attempt to impose on the public. How people could be so gullible as to take shares in such companies he could not imagine. If this were not a lesson to them, nothing would be.

The examination was adjourned, and the debtor was ordered in the meantime to file certain accounts.

Trade Notes.

FIRE AT A FUEL WORKS.—A serious fire broke out at the Carbon Farina Patent Fuel Works, Swansea, recently, owing to a naphtha lamp hung over a heap of pitch exploding. The running pitch ran all over the works, and the flames were not extinguished till very serious damage had been done.

A FATAL EXPLOSION.—A furnace for refining pig-iron, at the forge of Messrs. Platt Brothers & Co., Oldham, exploded recently with a loud report. Four men were injured, two—William Meld and Jacob Jackson—seriously. One of the injured men has since succumbed. The cause of the explosion is not definitely known.

EXPLOSION OF A TAR BARREL.—While a number of men employed at the Municipal Gasworks, Belfast, were working last week with a huge barrel of tar, intended for application to a quantity of "breeze," the barrel was placed too near a set of boilers and exploded. One man sustained a fracture of the skull, and two others were also seriously injured.

THE WILMSLOW SEWAGE SCHEME.—Mr. Arnold Taylor, Government Inspector, held an inquiry at Wilmslow last week, with reference to the application of Wilmslow Local Board for permission to borrow £10,000. for sewage works in their northern district. The authorities are moving in consequence of the action of the Mersey and Irwell Joint Committee respecting the pollution of the river Bollin. An elaborate scheme has already been carried out in the southern district of Fulshaw, costing many thousands. The river Dean, which flows into the Bollin, is also engaging attention.

THE INSTITUTE OF CHEMISTRY EXAMINATION.—The fol is a list of the candidates who have passed the examination held Laboratories at 30, Bloomsbury-square, on Monday, 8th January and following days:—J. E. Baker (Finsbury Technical College, Lo F. S. Bayley (Finsbury), F. B. Burls (Finsbury), J. Chilwell (College, Birmingham), J. Hanley (University College, Live H. R. Le Sueur (University College, London), G. E. Shaw (s under Mr. David Howard, F.I.C., and at Finsbury), and F. Sout (Finsbury).

THE PRICE OF COPPER IN 1893.—The following are the and lowest prices paid for Chili bars during the past year:—

	Cash Bars and G.M.B.' Highest.		Lowest
January	£46 16 3	to	£44 18
February	46 2 6	,,	45 2
March	45 17 6	,,	45 5
April	45 6 3	,,	44 6
May	44 10 0	,,	42 17
June	45 2 6	,,	43 2
July	43 10 0	,,	41 12
August	42 1 3	,,	40 12
September	43 2 6	,,	41 7
October	42 12 6	,,	41 10
November	43 2 6	,,	42 1
December	43 17 6	,,	42 15

A SMOKE ABATEMENT PROSECUTION.—At the Northwich Sessions, Messrs. Bowman, Thompson & Co., Limited, chemical facturers Lostock Gralam, near Northwich, were summoned rece the Northwich Rural Sanitary Authority for breach of an orde upon them in April, 1892, for the abatement of a n caused by the emission of black smoke. They were charged u summons that on thirty days dense black smoke was allowed t from the chimney of their chemical works.—Inspector H. J. H proved the case.—Mr. J. J. Howitt (manager of Messrs. Bo Thompson & Co.'s works) urged that the defendants were doi they possibly could to abate the nuisance. Patent stokers were fitted, but owing to the enormous amount of work the patentee hand they had only been able to obtain six.—Thomas Cash, a sentative of the firm of the mechanical stoker manufacturer corroborative evidence, and stated that the defendants were doi work at a cost of £1,300.—The Bench imposed a penalty a day for twenty-five days (£12. 10s.)

THE DECLINE OF ALUMINIUM.—The application of the Alu Company, Limited, of Oldbury, for the reduction of its capit £400,000 to £80,000 has been heard in the Chancery Division Justice Wright. Mr. Buckley, Q.C., who appeared for the petit explained that these gentlemen were well-known men: Sir Roscoe, M.P., Sir Andrew Clark, and Mr. Gerald Balfour, M.P reduction was rendered necessary in consequence of the extraor drop in the price of aluminium, due to the new electrolytic which had been introduced in its manufacture, and which had b it down to one-thirtieth of its former value. The shareholders ha fully informed as to the condition of things from the beginning. was the point on which his lordship on a previous occasion had that he was not satisfied. Mr. Justice Wright, in granting the said he had had no idea on the occasion referred to of reflectin the gentlemen mentioned, who were all public men of the honour. A judge could only proceed on actual evidence, and simply asked that this should be brought before him.

WHERE STALE BUTTER GOES.—A peculiar case was heard Manchester City Police Court recently in which James D wholesale provision merchant, Smithfield Market, was charged instance of the Manchester Corporation with selling margarine n marked and labelled in accordance with section 6 of the Ma Act. The case for the prosecution was that the defendant Thomas Schofield and Sons, bakers and confectioners, Waterlo a quantity of what was purported to be butter known in the t "returns" or stale butter, but which on analysis by Mr. Estco found to be only margarine. It was stated that whilst the latte be bought at from 38s. to 40s. per cwt., stale butter, which is used by confectioners in their business, cost about 70s. per cwt Hockin, on behalf of the defendant, contended that Mr. Doher the article to Mr. Schofield in the belief that it was stale butter had paid for it and got an invoice on that basis. He purchased a person named Rossiter, who made it his business to buy from any old butter they might have on their hands, and afterwards r up in tubs and sell it to confectioners. Mr. Hockin further sub that the sample taken by the inspector at Mr. Schofield's shop have been divided into three parts for independent analysis as re under the Food and Drugs Act. The prosecution on the othe urged that such procedure was not necessary under the Margari Mr. Headlam, on the facts of the case, held that the invoice gi Rossiter absolved the defendant, and dismissed the case.

COVERY OF NICKEL ORE IN GERMANY.—Nickel ore has been ered in the Schleifsteinthal (Upper Harz), in Germany, about ilometers south of Goslar, where there are two veins, a major inor, both striking west-north-west, and dipping in parts to the and in other parts to the north. These veins have been known ny years, and have been worked for lead and zinc from time to In 1892, the property passed into the possession of the cher Bergwerks und Huettenactien Verein (formerly the Commener n), of Bonn, which has continued its exploitation.

THE WORLD WAGS.—History it seems is not the only thing that s itself, for American wit has also the knack of so doing. A of ingenious puns on chemical names came from the American bout six years ago, and went the round. To-day, the "cuttings" American comic papers, which are reprinted on this side, present he same new and original jokes, of course the jokes were original but the title is the only new part now. The new jokes and the itle appeared in these columns in 1888, so they need not be ted. It is sad though to see go-a-head brother Jonathan lapsing he backward ways of the mother country, instead of sustaining putation for slick-upishness.

E DANGER OF "SKIN TONICS."—In the Dublin Police Courts, Swifte, Q.C., has delivered judgment in the case in which Madam ert, of Regent-street, London, and Grafton-street, Dublin, was oned at the instance of the Pharmaceutical Society for having sold kin Tonic" containing mercuric chloride. The defence was that ottles containing the objectionable substance had been with- n, and that if the tonic had been sold as alleged, it was due to the ertence on the part of the defendant's Dublin agent, who had instructed carefully to avoid such mistakes. His Worship held a technical offence had been committed, and imposed a nominal lty of 20s.

Market Reports.

TAR AND AMMONIA PRODUCTS.

far as benzol is concerned things are not improved, and 90's is only worth 1s. 4½d., and 50/90's 1s. 5½d. Anthracene is rather r: 30 A keeps at 1s. 1d., but B is dearer at 10d. Crude naphtha changed in price, but keeps firm. Solvent naphtha, 90%, still es to the lower quotation, nearest value being 1s. 3d. to 1s. 3½d e carbolic acid, 60%, keeps steady at last week's quotation, ly 1s. 8d., while pitch shows no sign of easing off at present, nt values being well maintained.

phate of Ammonia is very firm, with a strong market; and as ate is scarce for this time of the year, there does not appear much hood of the present position giving way suddenly, the parcels g readily finding buyers. Beckton terms are £14., London out- nakes £13. 17s. 6d., while sales have been made at Hull for the figure. Liverpool and Leith £13. 17s. 6d. to £14. Forward ss has been done at Beckton for £14., February-March delivery, t £14. f.o.b. Leith, March to October.

MISCELLANEOUS CHEMICAL MARKET.

re is a fairly brisk market in alkalies of all descriptions—all the in this branch of trade being very busy, and orders are freely both for present and forward delivery. The spot quotations for c soda are steady at former rates, viz.:- f.o.b. Tyne, 77%, £11. n; f.o.b. Liverpool, 74%, £10. 5s.; 70%, £9. 5s.; 60%, £8. 5s.; , 60%, £8. per ton, 10-ton lots and upwards. For soda ash vary from 1d. to 1$\frac{1}{16}$d. per degree for Leblanc ash. For nia alkali, 58%, the price in bags at makers' works is still 2s. 6d. to £3. 15s. per ton. Bleaching powder unchanged: spot £7. 15s. (nett, softwood, f.o.r. makers' works. Soda crystals uch depressed in value by the large increase in make, and are in the South of England at £2. 5s. per ton. Bicarbonate is ained by agreement. Chlorate of Potash is moderately firm for elivery at 7¾d. per lb., and for delivery over 1894 7½d. per lb. nominal quotation. Recovered sulphur is without improvement e, and there is only small demand. Prices of brown and grey s of lime are rather lower, and owing to pressure of stock, of acetate of soda have also declined for spot delivery. In prices ic acid there is little change in position. Oxalic acid is more and higher prices are now asked. Potash, caustic and carbonate, ood request, and prices are firm. White powdered arsenic is ely scare and difficult to obtain for early delivery, value on the spot being £13 15s nett per ton. Arseniates of soda are also correspondingly firmer. Prussiate of potash is well maintained by the makers' agreement at 10½d. to 10¾d. per lb., according to quantity.

REPORT ON MANURE MATERIAL.

There continues to be a fair business doing, but high prices demanded by sellers stand in the way of large transactions. Quotation for 75/80% Florida rock remains at 8¾d per unit, c. f. & i. to United Kingdom ports, and 9d. per unit to Continent and Baltic. The raisers of South Carolina River rock are now prepared to meet buyers in the matter of price for forward shipment, but hardly to the extent as yet to induce any very large buying. There is good inquiry for River Plate bones, but no further transactions are reported. Anything near at hand would fetch £4. 17s. 6d. per ton. For shipment there are buyers at £4. 12s. 6d. to good United Kingdom ports. Further re-sales of crushed Kurrachee bones on spot have been made at £5. 1s. 3d.; ex quay, and on the way at £5. At the close there is nothing offering in any position. Sales of East Indian bone meal have been made on spot, and January-February shipment at £5. 2s. 6d., ex quay Liverpool, and £5 3s. 9d. is now required for shipment. On spot there are no sellers under £5. 5s. A parcel of Brazil bones sold at £4. 18s. 9d ex quay Liverpool, and £4 15s. paid for Alexandria bones, prompt steamer shipment, delivered ex quay Liverpool. Nitrate of soda is perhaps a shade easier. On spot there are sellers at 9s. 4½d. per cwt., fine quality, and 9s. 3d. would probably be business for inferior. 9s. 3d. per cwt accepted for an arrived cargo, fine quality. Due cargoes of ordinary quality are worth about 9s. 2d. Sales of home-prepared dried blood have been made at full prices for home consumption. Nothing reported in miscellaneous material.

THE METAL MARKETS.

LONDON, WEDNESDAY.—Pig iron quiet: Scotch warrants closed at 43s. 7d., Middlesbrough 36s. 0½d. cash, and hematite 45s. 6½d. Copper, dull: Chili bars, G.O.B.'s and G.M.B.'s, closed at £41. 7s. 6d. to £41. 12s. 6d. cash, and £41. 15s. to £42. three months. Tin, quiet: Straits closed at £71. 2s. 6d. to £71. 12s. 6d. cash, and £72. to £72. 10s. three months; Australian, £71. 10s.; English ingots, £75. 10s. to £76. Lead, steady: Spanish, £9. 6s. 3d. to £9. 7s. 6d.; English, £9. 7s. 6d. to £9. 10s. Silesian spelter: ordinary, £16. 5s. Nickel, 1s. 8½d. Antimony, £37. Quicksilver: First hands, £6.; second hands, £5 16s. *Copper shares* dull: Cape, 1$\frac{7}{16}$ to 1$\frac{9}{16}$. Copiapo, 1$\frac{11}{16}$ to 1$\frac{13}{16}$. Libiola, 3¼ to 3½. Mason and Barry, 2$\frac{5}{16}$ to 2$\frac{7}{16}$. Rio Tinto, 14⅛ to 14¼. Tharsis, 4¾ to 5.

WOLVERHAMTON, WEDNESDAY.—The conspicuous revival in Scotch and Middlesbrough steel and pig markets and the advance of prices there had an excellent effect on this exchange. Ironmasters more hopeful, and prices firmer all round. If the improvement continues values must go up. Sheets—singles, £6 17s. 6d.; doubles, £7. steel boiler plates £6. 10s, engineering plates £5 15s., angles £5. 10s., common iron bars £5 15s., best £7. 10s. Imported midland pigs 45s. to 46s., forge hematites 55s., Staffordshire common 38s. 6d.

GLASGOW, WEDNESDAY.—Market firm, with good business. Scotch done at 43s. 6½d. and 43s. 7d. cash, also at 43s. 8d. and 43s. 9d. one month; closing with buyers at 43s. 7d. cash, sellers ask 43s. 7½d. Cleveland done at 36s 1d. cash, also at 36s 3d. one month; closing with buyers at 36s. 0½d. cash; sellers ask 36s. 1d. Cumberland hematite done at 45s. 6½d. cash, also at 45s. 8d. and 45s. 9d. one month; closing with buyers at 45s. 6½d. cash, sellers ask 1d. more. Middlesbrough hematite closes with buyers at 44s. 4½d. cash, sellers ask 44s. 6d. Copper done at £42. three months.

LIVERPOOL OIL AND COLOUR MARKET.

WEDNESDAY.

OILS.—Palm oil continues firm at £23 10s, at which figure considerable sales have been effected. Saltpond is also reported as having changed hands at £21. 5s. per ton, all transit. Olive is moving fairly well at £32. to £38. per tun, according to quality. Linseed is dearer, though rather quiet, at 21s. to 21s. 6d. per cwt. for Liverpool makes, in export casks. Cottonseed is firm, and Liverpool refined is quoted 21s. to 22s. per cwt. Castor oil is somewhat easier at 2$\frac{7}{16}$d. to 2½d. for good seconds Calcutta. First pressure French offers at 2$\frac{9}{16}$d. per lb. ex quay, and 2$\frac{5}{8}$d. store. Tallow is in moderate demand, but offerings are small, and the market in consequence firm. Resins keeps much the same in price, with a moderate inquiry. Spirits of turpentine are scarce, and have ruled steady at 23s. per cwt., at which holders

remain firm. Petroleum is steady at 4¼d. to 5¼d. for American, and 3¾d. per gallon for Russian refined.

COLOURS are steady without alteration in prices. Ochres: Oxfordshire, common, £10., medium, £12., best, £15.; Derbyshire, common, 40s; medium, 50s., best, 60s.; Welsh, best, 70s., seconds, 50s., and common, 18s.; Irish, Devonshire, 40s. to 45s.; French, J.C., 55s. to 60s.; M.C., 65s. to 67s. 6d. Umber: Turkish quiet; Devonshire, 50s. to 55s. White lead, red lead, and oxide of zinc unchanged. Venetian red, £6. 10s. to £10. Cobalt: Prepared oxide, 9s. 9d.; black, 9s.; blue, 6s. Zaffres: No. 1, 3s. 6d.; No. 2, 2s. 6d. Oxide of iron: Common, £6.; medium, £10.; finest, £20. Zinc oxide, £23 to £25.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, TUESDAY.

The feeling last week that sulphate of ammonia inclined to the side of increased firmness was fully confirmed within brief space, and a substantial rise has now to be recorded. Delivery, March to October, has been fixed, at least in the case of one contract, at £14. f.o.b., Leith, and the market remains very firm. It is not certain that the same money has not been had for prompt, but it is at least the fact that makers are now asking that figure for prompt as well.

In mineral oils and paraffins the position is not much changed, but the call for burning oils has slightly abated its urgency, and makers are rather more abreast of their delivery engagements. Scale and wax continue easier, with the old quotations difficult to get. There has been a very large output of paraffin candles, but at rather indifferent values only.

The general chemicals market has not maintained the slight recovery alluded to in last report, and things are rather sluggish again. Chlorate of potash is slightly firmer; sulphate of copper is down; others unchanged.

Chief prices current are:—Soda crystals £2. 7s. 6d nett, Tyne; soda ash £3. 17s. 6d. nett, Tyne; white alkali 48/52° £4 10s to £5. nett, Tyne; alum in lump £5. nett, Glasgow; caustic soda, white, 74° £10. 10s., 70/72° £9. 5s, 60/62° £8. 5s., and cream 60/62° £8., all nett, Liverpool; bleaching powder £7. 15s., nett, Tyne; saltcake, 20s; borax, English refined, £30., and boracic acid, £37. 10s. nett, Glasgow; bicarbonate of soda, 5-cwt casks, £6 10s., and 1 cwt. casks £6. 15s. nett, Liverpool; bichromate of potash, 4½d. nett, for Scotch and English deliveries (for export, 4¼d. nett, f.o.b. Glasgow); bichromate of soda, 3¾d. nett, for Scotch and English deliveries (for export, 3½d. nett, f.o.b. Glasgow); chlorate of potash, 8½d. less 5%, Liverpool; nitrate of soda, 9s. 6d to 9s 7½d; sulphate of ammonia, £14. 0s. 0d., f.o.b. Leith; salammoniac, first and second white, £39. and £37. nett, any port; sulphate of copper, £15. 7s. 6d. less 5% Liverpool; paraffin scale, hard 1⅞d., and soft 1⅞d. per lb.; paraffin wax 120° semi-refined 2⅜d.; paraffin spirit (naphtha) 4½d. per gallon; paraffin oil, burning, standard No. 1 grade, 5d at works, for Scotch buyers (English sales, ½d. to ¾d lower), ditto (lubricating) 865° £4. 7s. 6d. to £4. 10s., 885° £4. to £5. 10s., and 890/895° £5. to £6. Week's imports of raw sugar at Greenock were *nil*.

THE COPPER MARKET.

Messrs. Harrington and Co., in their fortnightly report, dated Liverpool, January 17th, 1894, state:—

Since ours of the 30th ult., we have had another irregular market for G.O.B.'s and G M.B.'s, about 6,200 tons sold at from £42. 12s. 6d. cash and £43. 1s. 3d. three months down to £41. 13s 9d. and £42. 2s. 6d. respectively, closing steady to-day £41. 16s. 3d. cash and £42. 3s. 9d. three months. The total stocks in Liverpool, Swansea, London, and Havre show an increase of 846 tons for the fortnight. The stocks include about 1,800 tons of copper sold, but not yet delivered to smelters. The visible supply shows an increase of 403 tons for the fortnight. The stock of English G.M.B.'s in Liverpool remains at 4 tons. Refined and manufactured sorts are dull, quotations being: Tough cake, £44. 5s to £44. 15s.; best select, £45. to £45. 10s.; Indian sheets, £50. to £50. 10s.; strong sheets, £53.; and yellow metal sheets, 4$\frac{15}{16}$d. per lb.

The sales of furnace material comprise—at Liverpool: 400 tons Ordinary Montana Matte, at 8s. 7½d.; 50 tons English Precipitate, at 8s. 9d.; 120 tons Mexican Ore, at 8s. 3d.; 66 tons Spanish Precipitate, at 8s. 6d.; 350 tons Norwegian Ore, at 8s. 6d.; 1,300 tons Chili Ore, to arrive, per s. *Antisana*, at 7s. 3d. per unit; 105 tons Auriferous and Argentiferous Mexican Bars, 16 tons Auriferous and Argentiferous River Plate Bars, 125 tons Auriferous and Argentiferous Mexican Matte, 30 tons Argentiferous Chili Regulus, and 30 tons Argentiferous Peruvian Matte, all on private terms. At Swansea: 950 tons Quebrada Regulus, at 7s. 10½d.; and 825 tons Quebrada Ore, at 7s. 4½d. per unit.

HULL PAINT, OIL, AND COLOUR RE

OILS.—The past week has maintained so far the good of the year for good business here, the shipping tonnage bei of same week last year, and it is rumoured that the N Railway Co. intend to spend £100,000 in improving the one of their docks here. The imports to date compared time last year are:—Linseed, 38,792 qrs., against 13,992 seed, 13,145 qrs., against 6,803 qrs.; cottonseed, 1 against 18,370 tons; olive oil, 851 tuns, against 832 tun 549 casks, against 412 casks; oilcakes, 2,117 tons, against tallow, 2,499 cwts., against 4,728 cwts; turpentine, 1 against 32 barrels. Refined cotton oil has improved about ton, closing firm at 19s. naked spot, January-April worth and May-August quoted 20s., crude 17s 3d. buyers' spot. of refined oil for the week has been 3,960 cwt. Linseed oi rather easier, closing steady at 19s. 6d. naked spot; a there are sellers for January-April or May-August; last still quoted 19s.; casks 17s. 6d. per ton extra, and barrel per ton; boiled and refined ditto, in casks, from 21s, 3d. per cwt. Cod oil, £17 10s to £19. 10s per ton Pale se £21. per ton. Olive oil unchanged Turpentine, 22s 9d., Castor oil, 2⅝d per lb. for first pressure. Herring oil, £ friction grease, from £6. Brown wool grease, £8 per to and cylinder oils, from 1s. to 2s per gallon. Petroleum 26s. per cwt.

CAKES.—Linseed cakes: A quiet demand at previou per cent. pure, £8. 15s. per ton; ordinary, £7. 5s. to Russians, £8. 5s. to £8 10s; Polish, £8. 10s. Cotton cal orders coming in slowly, but prices of seed and oil do not reduction in cakes, best makes £5. 2s. 6d. to £5. 5s. R East India, £4. 15s.; Black Sea, £3. 15s. to £4. Fee £5. 5s per ton.

PAINTS.—It is yet too early in the year to have a importance to record of the trade; prices remain about the oxide of iron, from £9 to £18 per ton; oxide of zinc, £2 Venetian red, dry, £6. to £10. per ton; lime blue, 16s white and red lead unchanged; common black varnish. £5. ton in barrels; oak varnish, from 5s. 6d. per gallon; re paints, from £26. per ton.

TYNE CHEMICAL REPORT.

Chemicals show little or no alteration in prices. Trade is quiet, though there is more disposition to buy ahead. Blea £7. 10s. per ton. 76/77%. caustic scarce and in demand at to £11. Sulphur dull, at £4. 2s. 6d. per ton. Stocks of are very low:

Bleaching powder, softs, £7. 10s. per ton, nett; hards, £7. 1 nett; caustic soda, 76/77%, £10. 15s. per ton, nett; 70%, £ ton, nett; recovered sulphur, 2cwt. bags, £4. 2s. 6d. per ton, ash, 48%, £3. 15s per ton; 52%, £4. 2s. 6d. per ton; 56%, £ ton, nett; alkali, 36%, £3 per ton, nett; white alkali, 48%, £ ton; 50%, £4 15s per ton; 52%, £5. per ton, nett; hyposulphi in 5-7 cwt. casks, £5. per ton; ditto, in 1cwt. kegs, £5. 10s. per silicate of soda, 75° Tw., £2. 15s. per ton, nett; 100° Tw., £ nett; 140° Tw., £3. 17s. 6d. per ton, nett; soda crystals, £2. 7s. 6d. per ton gross weight; in 2 cwt. bags, £2. 7s. 6d. p weight; chlorate of potash, 8½d. per lb. less 6%; pearl b £3. per ton, nett; pure white sulphate of alumina, £4. 2s. 6 nett; blanc fixe, £7. 10s. per ton, nett; chloride of barium, £ ton, nett; carbonate of alumina, £28. 15s. per ton, nett; al soda, £33. 15s. per ton, nett; in 5 ton lots, £28. 10s. per to

South Durham salt is quoted from 9s. to 9s 6d. per ton f. and in good demand.

Coals.—There is still a strong demand for certain qualitie though prices are irregular. Best Northumbrian steam, 12s. 6 per ton, for prompt; for February, 12s. has been taken; sm abundant, 4s. 3d. per ton; bunker coals vary in price; unscreened, 8s. 3d. to 8s. 6d. per ton; best unscreened, 10s. best Durham screened, 12s. per ton; gas coals, 8s. to 9s coke, best Durham, 15s. to 15s. 6d. per ton.

New Companies.

William Mather Limited. CAPITAL £20,000., in shares each. This company has been formed to take over as a going the business of manufacturing chemists, etc., carried on by W.

at Hulme, Manchester. The subscribers to the memorandum of association are :—W. Mather, Dyer-street, Hulme, Manchester, manufacturing chemist ; G. Lowe, Dyer-street, Hulme, Manchester, cashier ; A. J. Pidd, 22, Chester-road. Manchester, chemist and druggist ; E. Mather, Park Gate, Timperley, married woman ; D. Lowe, 733, Rochdale-road, Manchester, estate agent ; S. Dixon, Dyer-street, Hulme, Manchester, spinster ; A E. Lowe, Chorlton-cum-Hardy, married woman.

Keltie Products Limited. CAPITAL £6,000. in shares of £10 each. This company has been formed to carry out an agreement between the Scottish Fuller's Earth and Chemical Company and the Hon. B. F. Rollo, Dinning, Perthshire, and to carry on the business of mineral merchants and miners and to manufacture substances from the same. The subscribers to the memorandum of association are :—H. E. Richardson, 15, South Charlotte-street, Edinburgh, writer to the signet ; Holmes Ivory, 6, Albyn-place, Edinburgh, writer to the signet ; A. H. Black, 123, George-street, Edinburgh, writer to the signet ; A. Menzies, 123, George-street, Edinburgh, writer to the signet ; J. T. M. Greig, 123, George-street, Edinburgh, chartered accountant ; F. A. Bringloe, 123, George-street, Edinburgh, chartered accountant ; J. Ivory, 122, George-street, Edinburgh, chartered accountant.

William Henderson and Company Limited. CAPITAL £77,000. in shares of £10 each. This company has been formed to take over the works of W. Henderson and Company, chemical manufacturers, of Irvine, Ayr, N.B., and to undertake and carry on the business formerly prosecuted by this firm. The subscribers to the memorandum of association are :—A Henderson, Mole Lodge, West Molesey, Kingston-on-Thames, Surrey, gentleman ; A. N. Henderson, Cruchfield House, Bracknell, Berks, gentleman ; E. Henderson, Cruchfield House, Bracknell, Berks , spinster ; A. C. Henderson, Cruchfield House, Bracknell, Berks., spinster ; J Graham, Glasgow, chartered accountant ; J. Pipe, Irvine, chemical manufacturer ; M. Bannatyne, 144, West George street, Glasgow, solicitor.

Gazette Notices.

PARTNERSHIP DISSOLVED.

A. C. BRIGHT, A. W. M. BRIGHT, and E M. LETCHER, coal, lime, and salt merchants, Hereford. Moorhampton, and Tram Inn, Herefordshire, under the style of Nash and Co., so far as regards A. C. Bright.

BANKRUPTCY ACTS, 1883 and 1890.

Receiving Order.

CROMACK, ALFRED, and BATHURST, WILLIAM, trading as Cromack and Bathurst, Hemel Hemp-tead, oil and colour men.

Adjudication.

ASHWORTH, ROBERT, Littleborough, near Manchester, and Manchester, bleacher and dyer.

The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of George E. Davis and Alfred R. Davis, who report professionally upon the value of Chemical Patents.

APPLICATIONS FOR ENGLISH LETTERS PATENT.

Secondary Batteries. H. C. L. Holden. 382. January 8.
Manufacture of Cellulose from Wood. C. F. Cross. 409 January 8.
Centrifugal Separators H. F. M Kayser. 416. January 8.
Coating Metallic Surfaces with Zinc and Alloys of Zinc. R. Heathfield and W. S. Rawson. 437. January 8
Petroleum Burning Apparatus. J. Roots. 445. January 9
Hydraulic Cement. G. W. A Stein. 475. January 9.
Azo-Dyestuffs. J. Y. Johnson. 515 January 9
Manufacture of Illuminating Gas. I. Carr. 534. January 10.
Improvements in Mechanical Stokers. H. Schomburg. 557. January 10.
Filter Presses. A. L. G. Dehne. 575. January 10.
Smoke Consumer. R. Sheard. 597. January 11
Smoke Consuming Furnaces. M. M. Milner and J. Thomas. 625. Jan 11.
Manufacture of Fuel. T. Archer. 647 January 11.
Improvements in Burning Liquid Fuel. L. Rusden and R Eeles. 659. January 11.
Manufacture of Electrodes. A. Phillip. 670. January 11.
Treating Tar and Obtaining Useful Products therefrom. J. H. W. Stringfellow. 736. January 12.
Machines for Decorticating Ramie Fibre. A D. Estienne. 738. January 12
Improvements in Devices for affording Protection against Disease and Unhealthy Odours. A. J. Boult. 753. January 12.
Improvements in the Manufacture of Manure. M. C. Ginster. 792 January 13.
Improved Apparatus for Burning Methylated Spirit, etc. W. E Caddell. 815. January 13.
Improvements in Electrolytic Apparatus for Oxidising, Chlorinating, etc. J. Hargreaves and T. Bird. 835 January 13.
Obtaining Metallic Bases and their Compounds by Electrolysis. J. Hargreaves and T. Bird. 836. January 13.

IMPORTS OF CHEMICAL PRODUCTS
AT
THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending January 13th.

Acetate of Lime—
U.States, 1,098 pkgs. Johnson & Hooper

Acetic Acid—
Holland, 20 pkgs. A. & M Zimmermann

Acetone—
Holland, 12 pkgs. A. & M. Zimmermann

Alkali—
France, 110 c. Arnati & Harrison
Germany, 21 pkgs. L & I. D Jt Co.

Ammonium Chloride—
Holland. 4 pkgs. H. Lorenz

Antimony—
Newcastle, 21 t. J. J. Pratt & Son

Antimony Ore—
Newcastle, N.S.W., 42 t. J. J. Pratt & Son
" 63 W. B. Marcus
Sydney, 13 J. Morrison & Co.

Anthracene—
Holland, 151 pkgs. Burt, Boulton, & Co.

Asbestos—
U. States, £238 Bell's Asbestos Co.

Barytes—
Holland, 23 cks. O'Hara & Hoar
Belgium, 65 C. J. Capes & Co.

Camphor—
Japan, 225 lbs. Lewis & Peat

Caoutchouc—
Zanzibar, 42 c Wallace Brs.
25 Anderson, Weber, & Smith
Zanzibar, 19 Clarke & Smith
" 22 Patry & Pasteur
" 158 L. & I. D. Jt. Co.
Germany, 5 "
E. Indies, 165 Huttenbach & Co.
Madagascar, 277 Procter Brs.
" 40 Prop. Bull Wf.
Nossi Be, 46 "
Mayunga, 30 S. Figgis & Co.

Castor Oil—
Belgium, 90 brls. Fuerst Brs.

Caustic Potash—
France, 20 drs. Spies Brs. & Co.

Chemicals (*otherwise undescribed*)
Germany, 32 pkgs. T. H. Lee
" 27 A. & M. Zimmermann
" 5 Craven & Co.
Holland, 14 J Barber & Co.
" £6 L C. & D. Rly.
France, 8 Carey & Sons
Natal, 5 W. Bauer & Co.

Cream of Tartar—
France, 15 pkgs. W. C Bacon & Co.
" 1 W. Caudery & Co.
" 4 E. W. Carling & Co.
" 9 B. & F. Wf. Co , Ltd.
Holland, 16 "
" 50 Kirkpatrick, Barr, & Co.
" 50 Middleton & Co.
Germany, 1 Phillipps & Graves
Spain, 6 W. C Bacon & Co.
" 6 C. Christopherson & Co.
" 10 G. Boor & Co.

Dextrine—
Germany, 100 pkgs H. Lorenz
" 50 M. D. Co.
" 20 Craven & Co.

Dyestuffs—
Aniline
Germany, 1 pkge. Gordon, Woodroffe & Co.
France, 2 C Atkins & Nisbet
Argols
Cape, 50 pkgs. L. & I. D. Jt. Co.
Italy, 22 Thames S. T. & L. Co., Ltd.
Cutch
U. States, 50 pkgs. Anderson, Weber, & Smith
Extracts
Belgium, 80 pkgs. L. J. Levinstein & Sons
Italy, 1 cs. L. & I. D. Jt. Co.
Gambier
E. Indies, 221 pkgs. E Boustead & Co.
" 1,103 Adamson, Gilfillan, & Co.
" 591 Beresford & Co.
" 188 S. Barrow & Bro., Ltd.
" 262 R. & J. Henderson
Indigo
E. Indies, 685 chts. L & I. D. Jt. Co.
" 5 Thomasset & Co.
11 G. Steinthal & Co.
4 Stansbury & Co.
9 J. Kenyon & Sons
" 84 Parsons & Keith
" 17 T. Barlow & Bro.
" 65 Darling Brs.
" 121 Elkan & Co.
" 14 H. J. Perlbach & Co.
" 20 J. Foeyrs
" 5 Ralli Brs.
" 88 Ernsthausen & Co.
" 45 Croysdale & Co.
" 487 Park, Macfadyen, & Co.
" 6 Hermann & Co.
" 17 F. Huth & Co.
East Indies, 24 Fruhling & Goschen
" 36 Hoare, Wilson, & Co.
" 31 F. W. Heilgers & Co.
" 105 Forbes, Forbes, & Co.
" 27 Wallace Brs.
" 3 Vogt, Herbst, & Co.
" 6 E Bower & Co.
" 15 G. N. Rly. Co.
" 56 R. Von Glehn & Sons
" 10 L. & N.-W. Ry. Co.
" 56 pkgs. Ross & Deering
Sydney, 10 chts L. & I D. Jt. Co.
Myrabolams
E. Indies, 4,204 pkgs. L. & I. D. Jt Co.
" 2,020 Baxter & Hoare
" 280 Beresford & Co.
Orchella
Ceylon, 13 pkgs. Hoare, Wilson, & Co.
Saffron
Spain, 1 pkge. B. & N. Wf. Co., Ltd.
Sumac
Italy, 100 pkgs. Skillbeck Brs.
" 500 C S. Lovell
" 50 H. Johnson & Sons
" 28 Finlay & Co.
" 100 F. Roberts
" 100 G. Lewis
" 1,225 J. Kitchin, Ltd.
Tanner's Bark
Natal, 3 t. Anning & Cobb
Belgium, 22 Leach & Co.
Valonia
A. Turkey, 102 t. A. & W. Nesbitt
" 5 Anning & Cobb

Farina—
France, 9 pkgs. Hernu, Peron, & Co.
Holland, 100 J. Knill & Co.
" 100 G. Hornzee

Glucose—
Holland, 110 pkgs. 110 c. J. Barber & Co.
France, 200 200 ,,
U. States, 500 500 Ohlenschlager Brs.
,, 3,934 3,934 Fellows, Morton, & Co.
,, 207 1,107 R. G. Hall & Co.
,, 250 1,322 L. & I. D. Jt. Co.
,, 350 350 G. Hedges & Son

Iodine—
Germany, 128 pkgs. A. Gibbs & Sons

Manure—
Belgium, 4 t. Leach & Co.
Sweden, 50 Anglo-Swedish Co.
Germany, 180 J. Gibbs & Co.
,, 138 D. de Pass & Co.
Morocco, 14 G. Cruscoe & Co.
Gibraltar, 20 Fox, Roy, & Co
E. Indies, 800 A. Hunter & Co.
Sydney, 5 J. Palmer, junr.

Methyl Alcohol—
Germany 9 dms. Stein Brs.

Mica—
E. Indies, £184 W M Smith & Sons
Adelaide, 300 Best, Ryley, & Co.

Ochre—
Holland, 6 cs. Phillipps & Graves
France, 20 cks. J. L. Lyon & Co.

Paraffin Wax—
U. States, 386 pkgs. H. Hill & Sons
,, 487 brls. J. H. Usmar & Co.

Phosphate Rock—
Belgium, 50 t. Anglo-Contl. G. Wks.

Pitch—
Russia, 10 pkgs. G. Boor & Co.

Plumbago—
Ceylon, 357 brls. J. Thredder, Son, & Co.
Holland, 30 cks. B. Gallaway

Potash—
France, 120 c. Petri Brs.

Potassium Bromide—
Canada, 35 pkgs. Furness, Withy, & Co.

Potassium Carbonate—
France, 20 c. J. A. Reid
,, 55 Beresford & Co.

Potassium Chloride—
Germany, 250 pkgs. F. W. Berk & Co., Ltd.
,, 151 W. G. Blagden

Potassium Sulphate—
Germany, 102 pkgs. T. Farmer & Co.
France, 5 drs. Mead, Son & Co

Pumice Stone—
Italy, 9 t. T. Hill Jones

Pyrites—
Spain, 1,850 t. Naylor, Benzon, & Co.

Saltpetre—
Germany, 101 cks. J. Hall & Son
,, 124 P Hecker & Co.
,, 50 T. Merry & Son
E. Indies, 1,315 bgs. Lucas & Spencer's Wf.
Germany, 20 kgs. Baiss Brs, & Co.
,, 4 cks. Petri Brs.

Soda—
Belgium, 203 c. G. S. N. Co.

Sodium Hyposulphite—
Germany, 146 pkgs. F. Boehm

Starch—
Holland, 540 pkgs. A. Starck
,, 1,080 Little & Johnston
,, 80 J. Barber & Co.
Belgium, 80 Barrett, Tagant & Go.
,, 120 T. H. Lee
,, 160 Leach & Co.
Germany, 200 Horne & Co.
U.S., 37 T. Meadows & Co.

Stearine—
France, 80 bgs. Bennett S.S. Co.

Sulphur—
Italy. 5 t. F. Smith
,, 50 J. Greig
,, 5 J. Puddy & Co.

Terpene—
Germany, 6 pkgs. F. Stahlschmidt & Co.

Ultramarine—
Germany, 6 pkgs. H. Brooks & Co.
,, 4 cks. L. & I. D. Jt. Co.
Holland, 20 Hemu, Peron & Co.

Varnish—
France, 1 pkge. Flageollet & Co.

White Lead—
Germany, 44 cks. Randall Bros.
Belgium. 24 Leach & Co
,, 9 J. L. Lyon & Co.

Zinc Oxide—
Holland, 25 brls. M. Ashby, Ld.

LIVERPOOL.

Week ending January 11th.

Acetic Acid—
Hamburg, 2 brls.

Antimony—
Valparaiso, 168 bgs. Aillon, Aramazo
,, 145

Bone Ash—
Campana, 288 bgs.

Bone Meal—
Bombay, 7,125 bgs.
Karachi, 2,341

Borate of Lime—
Mollendo, 200 sks. H. W. Gibson
Antofagasta 2,190
Valparaiso, 314

Borax—
Mollendo 200 sks. H. W. Gibson
,, 123

Castor Oil—
Marseilles, 25 brls.
Calcutta, 500 cs. Ralli Bros.

Colours—
Rotterdam, 11 bxs. 15 brls.

Cottonseed Oil—
New York, 2 brls. H. Lockwood

Cream of Tartar—
Tarragona, 3 hds. 2 cks.

Dried Blood—
Campana, 41 bgs.

Dyestuffs—
Alizarine
Rotterdam, 90 brls.
Cochineal
Las Palmas, 12 bgs. Widow Duranty & Son
Cutch
Rangoon, 500 bxs.
Extracts
Ghent, 50 cks. J. T. Fletcher & Co.
Rouen, 327 Co-op. W'sale Society, Ld.
Baltimore, 50 brls. Mucklow & Co.
,, 12 Houston & Laurisch
Trieste, 600 Oak Extract Co.
Fustic
Corfu, 10 t.
Indigo
Calcutta, 66 chts.
Logwood
New York, 273 ps. B. Ackerley & Co.
Monte Christy, 475 t. 10 c.
Madder
Rotterdam, 4 cks.
Myrabolams
Bombay, 3 949 bgs.
,, 1,005 D. Sassoon & Co.
,, 473 Forbes, Forbes, & Co.
,, 670 E. D. Sassoon
Shumac
Bordeaux, 100 bls.
Palermo, 300 bgs. H. Rooke, Son, & Co.
,, 150 J. Kitchin, Ltd.
,, 2,695 2,140 bls.
Valonia
Patras, 252 bgs. J. M. Drossos
,, 846

Dyestuffs (*otherwise undescribed*)
New York, 29 brls. W. Bingham

Farina—
Fiume, 250 bgs.

Glucose—
Baltimore, 50 brls.
New York, 50

Guano—
Ghent, 24 bgs.

Iodine—
Valparaiso, 60 brls.

Iron Oxide—
Trieste, 13 brls. Gabain Brs
,, 20 cks.

Manganese—
Coquimbo, 1,250 t.

Mica—
Havre, 9 brls. Cunard S. S. Co., Ld.

Mineral White—
Trieste, 100 bgs. A. & R. Fanta
,, 10 brls.
Genoa, 20

Ochre—
Rouen, 42 cks. Co-op. W'sale Society, Ld.

Paint—
Boston, 70 cs
Trieste, 10 brls. J. M. Jones & Co.

Paraffin Scale—
Philadelphia, 100 brls. 100 cs.
New York, 568 Standard Oil Co.

Phosphate—
Antwerp, 370 t. T. Vickers & Sons
Brunswick, 901
Antwerp, 590 R. Gilchrist & Co.

Pitch—
Amsterdam 26 cks.

Potash—
Rouen, 45 cks. Co-op. W'sale Society, Ld.
Rotterdam, 57

Potassium Sulphate—
Lobos de Fierra, 664 bgs. Peruvian Corporation

Pyrites—
Huelva, 2,722 t. Matheson & Co.

Quicksilver—
Gijon, 84 flks. A. Ruffer & Bros.

Salt—
Palermo, 1 ck. L. Mosiato

Saltpetre—
Hamburg, 12 cks.
Karachi, 63 bgs.

Soapstone—
Philadelphia, 140 bgs.
Genoa, 400 G. Huntriss & Co.
,, 180

Soda Crystals—
Rouen, 10 cks. Co-op. W'sale Society, Ld.

Sodium Nitrate—
Caleta Buena, 7,612 bgs.

Starch—
Fiume, 60 cs.

Stearine—
New York, 40 hhds.

Talc—
Fiume, 100 bgs.

Tallow—
New York, 50 hhds.
Philadelphia, 50 tcs.

Tartar—
Bordeaux, 9 cks. 10 bgs. 2 cs.
Naples, 2

Tartaric Acid—
Rotterdam, 12 cks.

Waste Salt—
Hamburg, 719 t.

Zinc Skimmings—
New York, 572 brls.

MANCHESTER.

Week ending January 13th.

Albumen—
Antwerp, 30 cs.

Limestone—
Antwerp, 2 crts.

Ochre—
Treport, 81 cks. Fisher, Renwick & Co.

Tartar—
Bordeaux, 20 cks.

Tin Perchloride—
Antwerp, 2 cks.

HULL.

Week ending January 13th.

Acid—
Amsterdam, 45 cks. W. & C. L. Ringrose
Hamburg, 8 Wilson, Sons, & Co., Ld.

Albumen—
Antwerp, 1 ck. Wilson, Sons, & Co., Ld.
Reval, 11 cs. ,,
Hamburg, 34 cks. ,,

Arsenic—
Hamburg, 4 cks. Wilson, Sons, & Co., Ltd.

Asbestos—
Hamburg, 1 cs. Wilson, Sons, & Co., Ld.
Reval, 222 bdls.

Barytes—
Antwerp, 108 cks.
Ghent, 20

Camphor—
Hamburg, 1 brl. Wilson, Sons, & Co., Ld.

Chemicals (*otherwise undescribed*)
Antwerp, 636 pks. 35 dms. Wilson, Sons, & Co., Ld.
Dunkirk, 91 ,,
Rotterdam, 10 G. Lawson & Sons

Colours—
Stettin, 1 cs. Wilson, Sons, & Co., Ld.
Cologne, 2 cks.
Rotterdam, 4 21 pks. G. Lawson & Sons
Flushing, 8 cs. 15 Hutchinson & Son
Bremen, 8
Ghent, 16 cs.

Dyestuffs—
Alizarine
Rotterdam, 15 pks. G. Lawson & Sons
Fustic
Hamburg, 49 pcs. Wilson, Sons, & Co., Ld.
Valonia
Smyrna, 204 t.

Farina—
Harlingen, 1,425 bgs
Antwerp, 50 Bailey & Leetham
Ghent, 84 cs. Wilson, Sons, & Co., Ld.

Glucose—
Stettin, 360 bgs. Wilson, Sons, & Co., Ld

Manganese—
Dusseldorf, 1 ck. J. Good & Sons

Manure—
Stavanger, 500 bgs. Wilson, Sons, & Co., Ld.

Naphthol—
Rotterdam, 1 brl. Wilson, Sons, & Co., Ltd.

Phosphate—
Ghent, 1,140 bgs.

Plumbago—
Cologne, 24 cks. G Lawson & Sons

Pumice Stone—
Messina, 6 cs. 102 bgs. Wilson, Sons, & Co., Ld.
,, 5

Salt—
Hamburg, 25 t.

Saltpetre—
Hamburg, 4 brls.
,, 5 cks. Lofthouse & Saltmer
Rotterdam, 135 bgs. Wilson, Sons, & Co., Ltd.

Size—
Hamburg, 40 bgs.

Starch—
Bremen, 1,868 cs. Veltmann & Co.

Stearine—
Antwerp, 40 bgs. Wilson, Sons, & Co., Ld.

Turpentine—
Libau, 112 cks.

Waste Salt—
Hamburg, qty. Bailey & Leetham
,, 50 bgs. Wilson, Sons, & Co., Ld.

White Lead—
Cologne, 3 cks.
Antwerp, 24 Bailey & Leetham

GLASGOW.

Week ending January 18th.

Acetate of Lime—
New York, 411 bgs.

Acid—
Rouen, 21 cks.

Arachide Oil—
Rotterdam, 8 cks J. Rankin & [illegible]

Barium Sulphate—
Antwerp, 24 cks. [illegible]ath[illegible]

tes—
erdam, 87 cks.
onic Acid—
erdam, 18 tbs. J. Rankine & Son
r Oil—
erp, 112 cks.
icals *(otherwise undescribed)*
erdam, 2 brls.
rs—
erdam, 32 pkgs.
ine—
, 150 bgs.
uffs—
izarine
erdam, 6 brls. J. Rankine & Son
, 139 pkgs.
tracts
erp, 3 cks.
e, 250 brls. Geo. Dickson
n, 12 cks.
ax, 80
a—
n, 1,800 bgs.
se—
York, 600 brls.
—
erp, 11 cks.

Potashes—
Portland, Me., 12 brls. J. Poynter, Son, & M'Donald
Soap—
Philadelphia, 400 bxs. 25 crts.
Fiume, 58 cs. C. Tennant & Co
" 45
New York, 655 brls.
Sodium Acetate—
Rouen, 15 cks.
Starch—
Fiume, 50 bgs. J. Anderson & Co.
" 40 Wm. Stirling & Co.
New York, 400 sks.
Stearine—
Bordeaux, 50 bgs.
Sulphur Ore—
Seville, 659 t. Seville Sulphur and Copper Co.
Tallow—
Amsterdam, 28 firkns.
Boston, 59 hhds.
New York, 80 110 tcs.
Tartar—
Bordeaux, 50 cks.
Varnish—
New York, 3 brls. 2 cs.

White Lead—
Antwerp, 3 cks.
Ghent, 9
Rotterdam, 69 J. Rankine & Son
Zinc White—
Rotterdam, 150 cks. J. Rankine & Son

TYNE.

Week ending January 13th.

Barytes—
Rotterdam, 57 cks. Tyne S. S. Co.
Pyrites—
Huelva, 2,354 t.
Soap—
Rotterdam, 2 cs. Tyne S. S Co.
Christiania, 6
Sulphur Ore—
Memel, 670 t.
Zinc Oxide—
Rotterdam, 25 cks. Tyne S. S. Co.

GOOLE.

Week ending January 10th

Alkali—
Calais, 4 cks.
Antimony—
Boulogne, 4 cks.

Dyestuffs—
Alizarine
Rotterdam, 21 cks.
Extracts
Rouen, 120 cks.
Logwood
Jamaica, 482 t.
Dyestuffs *(otherwise undescribed)*
Boulogne, 3 cks. 1 cs. 48 pkgs.
Potash—
Dunkirk, 60 dms. 26 cks.
Calais, 25
Waste Salt—
Hamburg, 284 cks.

GRIMSBY.

Week ending January 13th.

Chemicals *(otherwise undescribed)*
Hamburg, 6 pkgs.
Dyestuffs *(otherwise undescribed)*
Dieppe, 41 cks.
Farina—
Hamburg, 265 bgs
Size—
Antwerp, 12 pkgs.
Zinc Ashes—
Antwerp, 3 cks.

EXPORTS OF CHEMICAL PRODUCTS

OF

THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

ek ending January 17th.

—
as, 5 cs. £10
day Id., 1 t. 16 c 16
e, 4 chys. 10
—
rara, 18 c. £4
ton, 10 t. 6 54
n, 5 18
rt, 7 48
Cake—
urne, 5 t. £14
nia (Liquid)—
ay, 3 cs. £10
urg, 24 dms. 35
nium Carbonate—
rk, 19 c. £30
to, 10 17
a, 3 t. 10 118
, 5 9
nium Chloride—
m, 1 t. 10 c. £51
rah, 10 17
nium Sulphate—
, 83 t. £1,050
tius, 50 1 c. 729
urg, 79 11 1,665
, 5 68
rdam, 150 2,075
ara, 65 8 928
e, 30 1 430
baya, 250 3,375
, 35 460
l, 26 317
rk, 50 648
c—
ton. 2 t. £33
n Binoxide—
10 t. £370
n Nitrate—
, 9 c. £10
c Acid—
elphia, 1 cs. £7
c Acid—
, 5 c. £10
—
don, 1 t. £29
2 cks. 20
rg, 6 46
ic Acid —
2 t. £100
rg, 80 cks. 468
Bisulphide—
elphia, 8 t. 9 c. £134
eo, 11 147
Potash—
, 2 t. 17 c. £65
hurch, 2 13 106
irne, 1 2 25

Caustic Soda—
E. London, 10 t. 9 c. £132
Mexico, 60 1 645
Brisbane, 15 19 154
Rockhampton, 1 5 14
Christchurch, 19 64
Auckland, 10 6 105
Melbourne, 26 12 257
Newcastle, 15 2 175
Adelaide, 10 7
Sydney, 37 13 370
Chemicals *(otherwise undescribed)*
Kurrachee, 5 c. £47
Cape Town, 12 kgs. 1 t 17 5 pkgs. 109
Montreal, 5 2 180
Bombay, 9 cks. 12 88
Citric Acid—
Bombay, 3 c. 1 cs. £35
Algoa Bay, 3 kgs. 24
Sourabaya, 1 9
Libau, 5 t. 15 886
Barcelona, 12 91
Genoa, 5 42
Toronto, 5 39
Calicut, 1 9
Oporto, 2 cks. 17
Amsterdam, 1 37
Rotterdam, 10 76
Coal Products—
Alizarine
Boston, 25 cks. £350
Aniline
Boulogne, 3 cs. £133
Anthracene
Rotterdam, 74 cks. £340
Benzol
Rotterdam, 18 dms. £220
Terneuzen, 40 347
Coal Tar Dyes
Calcutta, 1 cs. £11
Moscow, 25 840
Naphthaline
N. Orleans, 60 cks. £120
Hamburg, 6 46
Marseilles, 22 17
Paraffin Wax
New York, 8 cs. £47
Pitch
Boston, 656 cks. £326
Terneuzen, 600 t. 810
Dunkirk, 1,265 1,836
Tar
Wellington, 30 dms. £7
Natal, 50 7
Boston, 350 cks. 165
Tar Oil
Hamburg, 200 brls. £100
Tar Salts
Hamburg, 12 cks. £10
Toluol
Rotterdam, 10 puns. £137
Copperas—
Bussorah, 10 t. 2 c £20

Copper Sulphate—
Lisbon, 10 t. £152
Bordeaux, 11 5 c. 180
Stettin, 21 3 292
Genoa, 34 10 510
Leghorn, 10 9 165
Cream of Tartar—
Algoa Bay, 8 kgs. £9
Natal, 5 c. 21
Rockhampton, 2 t. 139
Melbourne, 5 349
Napier, 6 21
Wellington, 1 6 92
Sydney, 2 140
Brisbane, 3 7 237
Disinfectants—
Calcutta, 350 dms. £29
Bombay, 26 brls. 116 2 t 10 c 84
Natal, 20 100 cks. 59
Madras, 14 13
B. Ayres, 1 cs. 10
Sydney, 4 c. 15
Saigon, 6 pkgs. 12
Flowers of Sulphur—
E. London, 4 t. 9 c. £44
Algoa Bay, 4 9 33
Guano—
Jersey, 179 t. £1,790
Auckland, 5 50
Barfleur, 100 900
Orotava, 11 5 c 90
Manure—
Havre, 90 t. £990
Limon, 80 800
Champerico, 7 37
Jersey, 185 1 c. 1,250
Guernsey, 3 6 32
Orotava, 151 90
Oporto, 2 13
Bordeaux, 24 15 142
Demerara, 233 2 2,819
Berbice, 20 205
Rouen, 35 175
St. Lucia, 10 8
Genoa, 113 550
Rochefort, 550 1,950
Oxalic Acid—
Seville, 11 c. £16
Reval, 5 t. 2 144
Phosphate—
Martinique, 100 t. £415
Phosphoric Acid—
Boston, 34 pkgs. £120
Phosphorus—
E. London, 6 c. £43
Oporto, 2 cs 22
Potash—
Auckland, 4 brls. £29
Potash Crystals—
Oporto, 5 c £56
Potassium Chlorate—
Bombay, 6 cs. £54

Potassium Cyanide—
Boulogne, 6 c. £56
Natal, 3 28
Melbourne, 1 10
Potassium Oxalate—
Odessa, 6 c. £12
Potassium Sulphate—
Barbadoes, 20 t. £200
Salicylic Acid—
Auckland, 2 cs. £9
Saltpetre—
Vigo, 18 c. £19
Bahia, 2 t. 15 62
Oporto, 2 3 45
Brisbane, 5 6
Salts of Soda & Salts of Lime —
New York, 2 cs. 10 cks. £127
Sheep Dip—
Natal, 4 t. 2 c £18
Auckland, 200 dms. 12 cs. 24
Wellington, 55 8
Soda—
Mauritius, 21 t. 16 c £56
Algoa Bay, 2 5 74
Soda Ash—
Sydney, 16 t. £72
Soda Crystals—
Batavia, 25 t. £75
Natal, 17 c. 3
Demerara, 1 13 6
Sodium Bicarbonate—
Trinidad, 1 t. 4 c. £6
Brisbane, 5 3
Rockhampton, 5 37
Calicut, 18 9
Auckland, 1 44
Sodium Silicate—
Lyttelton, 10 t. 3 c. £47
Auckland, 2 11
Melbourne, 10 3 50
Sydney, 10 10 52
Delagoa Bay, 36 dms. 8
Sodium Tartrate—
Oporto, 2 c. £7
Strontium Nitrate—
Bombay, 13 c. £22
Sulphur—
San Francisco, 70 t. 12 c. £400
Brisbane, 1 23
Sulphuric Acid—
Aden, 15 c. £8
Antwerp, 1 cs. 8
Calicut, 6 8
Sulphuric Anhydride—
Bateum, 16 t. 14 c. £350

Sulphurous Anhydride—
Natal, 2 cs. £15
Superphosphate—
Barbadoes, 25 t £110
Jersey, 90 1 c 1,260
Terneuzen, 300 777
Barfleur, 37 111
Tartaric Acid—
Bombay, 3 cs. £15
Algoa Bay, 1 2 kgs. 20
Toronto, 5 c. 25
Rockhampton, 5 27
Melbourne, 15 71
Napier, 4 19
Sydney, 1 t. 5 122

LIVERPOOL.

Week ending January 17th.

Alum—
Havana, 6 t. 10 c. 1 q £25
Piræus, 2 12
Varna, 3 12 18
Aluminous Cake—
Calcutta. 10 t. 4 c. 3 q. £37
Ammonia (Liquid)—
Campana, 1 t. 5 c. 3 q. £105
Ammonium Carbonate—
Antwerp, 19 c 3 q. £34
Ferrol, 3 5
Ammonium Chloride—
Havre, 17 c. 2 q. £25
Naples, 1 t. 35
B. Ayres, 2 16 99
Alexandria, 1 2 40
Ammonium Sulphate—
Genoa, 50 t. 17 c 1 q. £686
Hamburg, 150 t. 10 2,100
Barcelona, 92 2 2 1,250
Valencia, 74 14 3 989
Antwerp, 150 6 1,941
Ghent, 10 135
Gr Canary, 4 55
Las Palmas, 10 138
Antimony—
Vera Cruz, 1 ck.
Barium Chlorate—
Rotterdam, 10 c. £40
Messina, 6 28
Bleaching Powder—
Bombay, 10 crts. 15 cs
Boston, 722 cks.
Chicago, 70 bxs.
Ferrol, 6 brls.
Kurrachee, 10 cs.
Newport News, 50
New York, 256
Alicante, 3 4
Baltimore, 99
Dunkirk, 36
Genoa, 70
Leghorn, 30
Malaga, 5
Rouen, 45
Vera Cruz, 17
Boracic Acid—
Antwerp, 2 t. 15 c. 1 q. £93
Odessa, 12 2 22
Havre, 5 2 198
Borax—
Ferrol, 4 c 1 q. £6
Antwerp, 1 t 15 52
Adelaide, 5 1 8
Odessa, 11 3 16
Rouen, 6 4 168
Hamburg, 1 19 1 52
Calcium Chloride—
Fiume, 5 t. 16 c. £13
Odessa, 15 1 34
Carbolic Acid—
Rotterdam, 3 c. £8
Calcutta, 2 cs. 39
Rosario, 2 6
Marseilles, 1 t. 19 1 q. 101
Caustic Potash—
Havre, 2 t. 2 c. £67
Chicago, 3 13 113
B. Ayres, 8 20
Caustic Soda—
Amsterdam, 308 dms.
Arica, 2
Barcelona, 430 5 brls.
Bombay, 73
Boston, 250
Callao, 25
Carupano, 6
Ceara, 25
Chicago, 480 145 bxs.
Cienfuegos, 15
Coquimbo, 15
Corfu, 45
Corunna, 4
Ferrol, 4
Hiogo, 350
Malta, 18
Melbourne, 48
Mollendo, 36
N Orleans 50
New York, 483 50
Philadelphia, 28 skl.-cs.
Pt Elizabeth, 4
Puerto Mont, 20
Rouen, 88
Salonica, 35
Savanilla, 40
Seville, 40 kgs.
Tarragona, 105 60 cks
Adelaide, 11 bxs. 1 pkge.
Alexandria, 33
Antwerp, 50 3
Babia, 555
Baltimore, 100
Beyrout, 21
Genoa. 103
Matanzas, 50
Oporto, 30
Palermo, 10
Penang, 50
Pernambuco, 45
Rangoon, 70
Rotterdam, 116
Smyrna 30
Sydney, 38
Trieste, 45
Trinidad. 7
Chemicals *(otherwise unaescribed)*
Marseilles, 4 c £7
Genoa, 15 25
Larnaca, 12 21
Samsoun, 11 2 q. 20
Venice, 1 t. 35
Philadelphia, 12 17 320
Odessa, 11 19
Constantinople, 1 2 38
China Clay—
Bombay, 92 t. 10 c.
Lisbon, 40 12
Boston, 117 5
Calcutta, 60
New York, 50
Porto Alegre, 5
Chrome Ore—
Hamburg, 7 cks
Coal Products—
Aniline Oil
Genoa, 15 dms.
Aniline Salts
Piræus, 6 cks.
Creosote Oil
Boca, 33 brls.
Naphtha
Rouen, 9 dms.
Pitch
Antwerp, 50 t.
Marseilles, 1,160 3 c.
St. Nazaire, 142
Tar
Honolulu, 10 brls
Philadelphia, 100
Pt Natal, 150 dms.
Sierra Leone, 47
Cobalt Oxide—
Gijon, 3 q. £22
Valencia, 3 20
Copperas—
Smyrna, 7 t. £11
Copper Sulphate—
E. London, 7 c. £6
Bordeaux, 207 t. 4 3,264
Seville, 1 1 1 q. 16
Rouen, 33 19 275
Lisbon, 34 17 522
Venice, 30 1 454
Gothenburg, 10 1 8
Valparaiso, 5 3 65
Mexico City, 20 304
Naples, 18 1 2 263
Trieste, 7 13 3 110
Trebizonde, 9 7
Fiume, 3 4 2 48
Leghorn, 2 14 3 39
Madras, 2 10 38
Marseilles, 226 13 2 3,619
Catania, 10 1 1 157
Algiers, 22 10 3 345
Disinfectants—
Bombay, 2 t 4 c. 2 q. £24
Dried Blood—
Cette, 101 t. £1,010
Lime—
Axim, 10 t. 14 c. 1 q. £56
Magnesia—
Canada, 1 cs
Magnesium Carbonate—
Rosario, 5 c. £8
Manganese—
Rouen, 10 t.
Manure—
Cherbourg, 462 t. 13 c. 1 q. £1,420
Malaga, 29 250
Nantes 50 2 68
Valencia, 50 9 1 135
Las Palmas, 2 11
Genoa, 676 7 2,191
Muriatic Acid—
Maceio, 10 c £5
Nickel Oxide—
Rouen, 4 c £26
Oxalic Acid—
Melbourne, 1 t. £30
Paint—
Cape Haytian, 7 cks.
Colon, 5
Havana, 1 25 kgs.
Havre, 5 tins 11 4 brls.
Kingston, Jam., 520
Kurrachee, 4
Lisbon, 5 dms
Manaos, 3 3
Para, 29
Pernambuco, 8 10
Porto Alegre, 50
Sherbro, 10
Valleyfield, 5
Algoa Bay, 1 cs.
Arroyo, 1
C. C. Castle, 65
Cape Town, 40
Guayaquil, 72 80
Jamaica, 15
Penang, 10
San Juan, 2 40
Yokohama, 40
Painters' Colours—
Acajutla, 19 pkgs.
Bahia 1 cs.
Baltimore, 141 cks.
Benguella 8 kgs
B Ayres, 22 34 111 69 brls.
Calcutta, 150
Callao, 22
Cienfuegos, 4 tcs.
E. London, 125
Ferrol, 2
Genoa, 6
Maceio, 2 16
Manila, 10 2 21
M. Videc, 10
New York, 5
Para, 13
Pernambuco, 75
Salaora, 3 2
San Juan, 300 6
Accra, 50
Amapala, 5
Barcelona, 4 bxs.
Bombay, 23 dms.
Brass, 20
Buguma, 13 2
Capetown, 30 2
Dunkirk, 2 14
Ghent, 6
Iquique, 3
Madras, 50
Santiago de Cuba, 2
Paraffin Wax—
Bordeaux, 10 bgs.
Venice, 7 cs.
Boston, 50
Paris White—
Naples, 10 cks.
Phosphorus—
Ferrol, 1 t. £11
Yokohama, 12 c 2 q. 127
Rosario, 1 cs. 11
Potashes—
B. Ayres, 16 c. £16
Potassium Bichromate—
Oporto. 4 c. £9
Syra, 5 12
Smyrna, 12 26
Alexandretta, 14 kgs. 10 74
Potassium Carbonate—
Chicago, 16 c. £25
Potassium Chloride—
Philadelphia, 5 t. £318
Hamburg, 1 5 c. 77
New York, 14 10 839
Calcutta, 1 10 80
Rouen, 1 70
Boston, 5 316
Sydney, 7 10 456
Naples, 2 5 133
Cape Town, 1 59
Hiogo, 35 2,217
Potassium Oxalate—
Boston, 4 t. 15 c. £100
Salt—
Accra, 10 t.
Anamboe, 10
Assinee, 25
Baltimore, 240
Barbadoes, 20 16 c.
Boston, 370
Buguma, 100
Calcutta, 2,533
Demerara, 139 5
Manaos, 49 15
N. Orleans, 760
Opobo, 50
Philadelphia, 10
Pt. Natal, 50
Rouen, 22
B. Ayres, 17 1
Dixcove. 25
Hamburg, 9 16
Loango, 19
Old Calabar, 250
Portland M., 172
Salt Cake—
Antwerp, 90 t.
Baltimore. 50 13 c.
Philadelphia, 75 7
Saltpetre—
Para, 10 c.
Madeira, 4 2 q.
Maceio, 2 t. 9
Soap—
Accra, 50 bxs.
Algoa Bay, 1,450 295 cs.
Anamaboe, 200
Annatto Bay, 40
Antwerp, 200
Barbadoes, 830
Batavia, 1,000
Bombay, 15 69
Calcutta, 44 250 bdls.
C. C. Castle, 25
Cape Town, 2,600
Curacao, 185
Dixcove, 31
E. London, 700 25
Ferrol, 3 brls.
Fredrikstad, 300
Gibraltar, 250 20
Gr. Popo, 50
Guayaquil, 700
Kingston, Ja ,2,190
Kurrachee, 3
Manaos, 1,400
New York, 100
Piræus, 90 1
Pt. Elizabeth, 352 50
Pt. Natal, 1,155
Pt. Said, 20
St. Lucia, 365
S Thomas, W. I. 1,975
Shanghai, 4,108
Sierra Leone, 50
Trinidad, 100
Alexandria, 20
Amsterdam 70
Antofagasta, 10
Brussels, 400
Constantinople, 20
Havana, 1
Maceio, 1
Montreal, 200
Para, 100
Rangoon, 10
Teneriffe, 168
Toronto, 750
Soda Alkali—
Catania, 17 brls.
Corfu, 90
Genoa, 70
Melbourne, 80
Messina, 20
Para, 20
Piræus, 30
Soda Ash—
Algoa Bay, 4 brls. 40 kgs.
Baltimore, 4,132 bgs 44 cks 431
Boston, 1,200 370 358
B. Ayres, 545 197
Calcutta, 100 kgs.
Ceara, 10
Corfu, 50
E. London, 25
Gothenburg. 200
Hiogo, 50 16
Maranham, 10
Melbourne, 557
Milwaukee, 270
New York, 4,084 153 63
Philadelphia, 167 120
Piræus, 10 brls.
Sourabaya, 20
Genoa, 100

burg, 17
10,
4
Grande do Sul, 25 brls.
50
hama, 50

Crystals—
say, 250 kgs.
n, 387 brls.
15
ax, 10 20
100
York, 112

m Arseniate—
n, 5 cks.

m Biborate—
irk, 10 cks.
e, 50 cs.

m Bicarbonate
nte, 13 kgs.
lona, 120
res, 99 cks.
tta, 100
nbo, 6
ondon, 6 20 brls.
a. 40
burg. 5
eilles, 65 5
ourne, 40 20
na, 20
a, 320
e, 40
ico, 10
erp. 4
ia, 10
ax, 25
ton, N.B., 100
oon, 30
n, 20
te, 20
e, 30

m Carbonate—
Alegre, 2 cks.

m Chlorate—
York, 50 kgs.

m Hyposulphite—
n, 40 kgs.

m Silicate—
e, 21 brls.
ria, 10
n, 4

ate of Lime—
York, 21 t. 6 c. £58

ur—
agena, N.G., 14 c. 1 q. £5
io, 19 3 65
15 5
da, 50 t. 2 193
n, 700 8 772
erp, 10 40
n, 15 80

phosphate—
anary, 8 t. £25

xide—
a, 2 c. £12

ntine—
kok, 48 dms.
d, 2 brls.

sh—
res, 2 cs.
Alegre, 3

Chloride—
ay, 6 t. 4 c. 3 q. £89

White—
e, 4 cks.

NCHESTER.

riod ending January 18th.

—
li, Syria, 5 brls.

ing—
hagen, 35 cs.

chouc—
rdam, 8 bls. 4 cs.

icals (*otherwise undescribed*)
rdam, 10 cks.

ras—
li, Syria, 4 brls.

ed Oil—
ndria, 10 brls.

esium Chloride—
rdam, 10 brls.

Oil—
rdam, 1 ck.

m Silicate—
10 brls.

HULL.

Week ending January 13th.

Alkali—
Bergen, 2 cks.
Hango, 1
Riga, 19

Ammonium Sulphate—
Antwerp, 196 bgs.
Dunkirk, 225
Hamburg, 502
Nickeric, 90
Rotterdam, 1,384

Borax—
Christiania, 1 ck.

Caustic Soda—
Bergen. 4 dms.
Konigsberg, 35
Reval, 20 30 cks. 300 kgs.
Stettin, 35

Chemicals (*otherwise undescribed*)
Alexandria, 20 cks.
Antwerp, 1 6 cs.
Christiania, 123 pkgs.
Copenhagen, 22 8 93
Flushing, 2
Gothenburg, 1 15
Hamburg, 6 36 2
Hango. 1
Nickeric, 12
Reval, 43 2 20pks.
Rotterdam, 24 14
Riga. 200
Stettin, 210
Stavanger, 1 1

Cottonseed Oil—
Alexandria, 230 c.
Antwerp, 941
Bremen, 200
Christiania, 7
Copenhagen, 101
Hamburg, 2,928
Konigsberg, 302
Rotterdam, 3,335
Stettin, 17

Creosote—
Copenhagen 13 cks.

Dyestuffs (*otherwise undescribed*)
Christiania, 10 bls.
Flushing, 2 cks.
Hamburg, 1
Reval 25 4 cs.
Rotterdam, 2 1
Rouen, 4
Riga, 9 1
Stettin, 1

Linseed Oil—
Alexandria, 560 c.
Bergen, 68
Christiania, 149
Drontheim, 10
Hamburg, 105
Stavanger, 85

Logwood—
Antwerp, 78 bls.

Naphthaline—
Riga, 320 bls.

Naphthol—
Reval, 14 cks.

Ochre—
Alexandria, 5 cks.
Copenhagen, 7
New York, 50

Paint—
Alexandria, 36 cks.

Painters' Colours—
Amsterdam, 34 cks.
Antwerp, 1 19 dms. 6 pkgs.
Bergen, 1 cs.
Copenhagen, 13 10 2
Drontheim, 1
Flushing, 1
Ghent, 1
Hamburg, 24 1 1
Reval, 1
Rotterdam, 1
Riga, 1 2

Pitch—
Antwerp, 461 t.
Hango, 1 ck.
Stavanger, 6

Superphosphate—
Hamburg, 300 t.

Tallow—
Alexandria, 59 cks.
Rotterdam, 22

Tannic Acid—
Reval, 40 cs.

Tar—
Alexandria, 1 ck.
Dunkirk, 25
Hamburg, 3
Rotterdam, 5
Stettin, 1 cs

Turpentine—
Alexandria, 156 dms. 10 cks

Yarnish—
Alexandria, 1 bl.
Bergen, 1 cs.
Copenhagen, 1 ck.
Gothenburg, 2

GLASGOW.

Week ending January 18th.

Acid—
Bombay, 9 t. 14 c. £46

Ammonium Sulphate—
W. Indies, 3 t. 12 c. £49
Valencia, 304 5½ 4,061
Hamburg, 50 650

Bleaching Powder—
Philadelphia, 41 t. 11 c. £350

Boracic Acid—
Japan, 3 t. 15 c. £136

Borax—
Japan, 1 t. ¼ c. £29
Halifax, 2 4¾ 68

Chemicals (*otherwise undescribed*)
Singapore, 100 gls. £31

Coal Products—
Alizarine Oil
Lisbon, £63
Naphtha
Rouen, 14 t. £205
Pitch
Bombay, 8 t. 15½ c. £21
Oporto 62 6 60
Granville, 33 10 30
Tar
Colombo, £45
Christiania, 25 brls. 10
Tar Oil
Hamburg, 3 dms £80

Copperas—
Cape Colony, 5 t. £100
Bombay, 123 12¼ c. 184

Cottonseed Oil—
Rotterdam, 32 brls. £67
Hamburg, 5 17

Dyestuffs—
Extracts
Valencia, 7 t. 6½ c. £170
Lisbon, 117
Logwood
Lisbon, £131

Linseed Oil—
Hong Kong, 1 t. 6 c. £37
Calcutta, 36

Magnesium Sulphate—
Christiania, 10 t. £31

Manganese—
Rotterdam, 11 cks. £50
Antwerp, 11 t. 18¾ c. 95

Manure—
W. Indies, 16 t. 10¾ c. £109
Valencia, 29 19 230

Paint—
Cape Colony, £43
Hong Kong, 13 t. 7½ c. 214
Japan, 1 24
Bombay, 179 2 80
New York, 10 7¾ £188. 5s.

Painters' Colours—
Calcutta, £120

Paraffin Wax—
Japan, 49 t. 19 c. £1,308
Valencia, 10 15 258
Rouen, 4 14¾ 119
Hamburg, 3 7 69

Potash Salts—
Cape Colony, 18 t. 9¾ c. £2,046

Potassium Bichromate—
Valencia, 10 t. ¾ c. £398
Halifax, 2 3¾ 86
Rouen, 10¾ 32
Antwerp, 1 4¾ 49

Soap—
Cape Colony, 1 t. 17½ c. £35
W. Indies, 3 12¾ 44
New York, 2 5 £32. 19s.

Sodium Bichromate—
Rouen, 16 t. 2½ c. £582
Antwerp, 3 16¾ 125

Tallow—
Oporto, 1 t. 19 c. £61

Yarnish—
Cape Colony, £29

TYNE.

Week ending January 13th.

Alkali—
Reval, 44 t.

Ammonium Sulphate—
Antwerp, 20 t.

Antimony—
Antwerp, 1 t.
Hamburg, 2

Arsenic—
Odense, 1 t. 6 c.

Barium Carbonate—
Reval, 5 t.

Barium Chloride—
Reval, 2 t 3 c

Bleaching Powder—
Antwerp, 37 t. 6 c.
Christiania, 13 17
Moss, 40
Reval, 180 11
Odense, 13
Copenhagen, 11 13
Ghent, 10 3
Oporto. 2
Rotterdam, 10 5
Drontheim, 10

Carbolic Acid—
Odense, 14 c.

Caustic Soda—
Antwerp, 4 t. 12 c.
Hamburg, 110 17
Christiania, 1 10
Reval, 24 5
Copenhagen, 1 3
Naples, 2 18

Litharge—
Oporto. 10 c.

Magnesia—
Hamburg, 3 c.

Paint—
Antwerp, 5 c.

Soda—
Hamburg, 43 t. 2 c.
Christiania, 10 1
Aarhuus, 5 7
Nakskov, 23
Oporto, 22 4
Rotterdam, 45

Soda Ash—
Antwerp, 6 t. 16 c.
Oporto, 13

Sodium Hyposulphite—
Oporto, 7 c.

Sodium Sulphide—
Moss, 320 t. 7 c
Oporto, 10

Sulphur—
Drontheim 50 t.

Tallow—
Hamburg, 2 t.

Yarnish—
Rotterdam, 12 c.

GOOLE.

Week ending January 10th.

Chemicals (*otherwise undescribed*)
Antwerp, 5 cks.
Hamburg, 5
Rotterdam. 20

Coal Products (*otherwise undes.*)
Boulogne, 1 ck.
Ghent, 46

Dyestuffs (*otherwise undescribed*)
Ghent, 1 cs. 3 pkgs.

Manure—
Antwerp, 188 bgs.
Hamburg, 228
Rotterdam, 268

Pitch—
Dunkirk, 150 t.
Antwerp, 359

GRIMSBY.

Week ending January 13th

Chemicals (*otherwise undescribed*)
Dieppe, 2 cs. 110 pkgs.
Hamburg, 5
Rotterdam, 4 pkgs.

Coal Products (*otherwise undes.*)
Dieppe, 1 cs. 82 cks.

PRICES CURRENT.

WEDNESDAY, JANUARY 24th, 189

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 116, PORTLAND STREET, MANCHESTER.

The values stated are F.O.R. at maker's works, or at usual ports of shipment in U.K. The price in different localities may va

	£	s.	d.
Acids :—			
Acetic, 25 °/₀ and 40 °/₀ .. .. per cwt.	7/3 & 11/3		
,, Glacial .. .. ,,	50/-		
Arsenic S.G., 2000° .. .. ,,	0	14	6
Fluoric .. .. per lb.	0	0	3¼
Muriatic (Tower Salts), 30° Tw. .. .. .. per bottle	0	0	10
,, (Cylinder), 30° Tw. .. .. ,,	0	3	0
Nitric 80° Tw. .. .. per lb.	0	0	1¾
Nitrous .. .. ,,	0	0	1¾
Oxalic .. .. nett ,,	0	0	3½
Phosphoric, 1750° .. .. ,,	0	1	2½
Picric .. .. ,,	0	1	0
Sulphuric (fuming 50 °/₀) .. .. per ton	15	10	0
,, (monohydrate) .. .. ,,	5	10	0
,, (Pyrites, 168°) .. .. ,,	3	0	0
,, ,, 150° .. .. ,,	1	5	0
,, (free from arsenic, 145°) .. .. .. ,,	1	6	0
Sulphurous (solution) S.G. 1025 .. .. .. ,,	3	0	0
Tannic (pure) .. .. per lb.	0	1	2
Tartaric .. .. ,,	0	0	11
Arsenic, white powdered .. .. nett per ton	13	15	0
Alum (loose lump) .. .. ,,	5	2	6
Alumina Sulphate (pure) .. .. ,,	5	0	0
Aluminoferric .. .. ,,	2	10	0
Aluminium .. .. per lb.	0	3	0
Ammonia, Anhydrous .. .. ,,	0	1	:
,, ·880=28° .. .. per lb.	0	0	3
,, =24° .. .. ,,	0	0	2¼
,, Carbonate .. .. nett ,,	0	0	3¾
,, Muriate .. .. per ton	25	10	0
,, ,, (sal-ammoniac) 1st & 2nd .. per cwt.	39/-& 37/-		
,, Nitrate .. .. per ton	44	0	0
,, Phosphate .. .. per lb.	0	0	10½
,, Sulphate (grey) London .. .. .. per ton	13	17	6
,, ,, (grey) Hull .. .. ,,	13	17	6
Aniline Oil (pure) .. .. per lb.	0	0	6¼
Aniline Salt ,, ... ,,	0	0	5¾
Antimony .. .. per ton	45	10	0
,, (tartar emetic) .. .. per lb.	0	1	0
,, (golden sulphide) .. .. ,,	0	0	10
Barium Chloride .. .. per ton	7	10	0
,, Carbonate (native) .. .. ,,	3	10	0
,, Sulphate (native levigated) .. .. .. ,,	45/- to 75/-		
Bleaching Powder, 35 % .. .. nett ,,	7	15	0
,, Liquor, 7 % .. .. ,,	3	10	0
Bisulphide of Carbon .. .. ,,	11	15	0
Chromium Acetate (crystal) .. .. per lb.	0	0	6
Calcium Chloride .. .. per ton	2	5	0
China Clay (at Runcorn) in bulk .. .. .. ,,	17/6 to 35/-		
Coal Tar Products and Dyes :—			
Alizarine (artificial) 20 % .. .. .. net per lb.	0	0	8
Magenta .. .. ,,	0	3	9
Anthracene, 30 % A, f.o.b. London .. per unit per cwt.	0	1	1
Benzol, 90 % nominal .. .. .. per gallon	0	1	4½
,, 50/90 ,, ... ,,	0	1	5½
Carbolic Acid (crystallised 40°) .. .. .. per lb.	0	0	6
,, (crude 60°) .. .. per gallon	0	1	8
Creosote (ordinary) .. .. ,,	0	0	2½
,, (filtered for Lucigen light) .. .. ,,	0	0	3
Crude Naphtha 30 % @ 120° C. .. .. .. ,,	0	0	8½
Grease Oils, 22° Tw. .. .. per ton	2	5	0
Pitch, f.o.b. Liverpool or Garston .. .. .. ,,	1	9	0
Solvent Naphtha, 90 % at 160° .. .. .. per gallon	0	1	4
"Lucigen" and "Wells Oils .. .. ,,	0	0	2½
Copper .. .. per ton	41	10	0
,, Sulphate .. .. ,,	15	10	0
,, Oxide (copper scales) .. .. ,,	40	0	0
Glycerine (crude) .. .. ,,	13	0	0
,, (distilled S.G. 1250°) .. .. ,,	43	0	0
Iodine .. .. nett, per oz.	0	0	9
Iron Sulphate (copperas) .. .. per ton	1	10	0
,, Sulphide (antimony slag) .. .. ,,	2	0	0
Lead (sheet) for cash .. .. ,,	10	10	0
,, Litharge Flake (ex ship) .. .. ,,	13	0	0
,, Acetate (white ,,) .. .. ,,	26	0	0
,, ,, brown ,,) .. .. .. ,,	17	10	0
,, Carbonate (white lead) pure .. .. .. ,,	20	0	0
,, Nitrate .. .. ,,	20	0	0
Lime, Acetate (brown) .. .. per ton	6	15	0
,, ,, (grey) .. .. ,,	10	10	0
Magnesium (ribbon and wire) .. .. per oz.	0	2	3
,, Chloride (ex ship) .. .. per ton	2	10	0
,, Carbonate .. .. per cwt.	1	17	6
,, Hydrate .. .. per ton.	17	0	0
,, Sulphate (Epsom Salts) .. .. .. per ton	2	19	0
Manganese, Sulphate .. .. ,,	17	15	0
,, Borate .. .. per cwt.	2	12	6
,, Ore, 70 % .. .. per ton	4	5	0
Methylated Spirit, 61° O.P. .. .. per gallon	0	2	2
Naphtha (Wood), Solvent .. .. ,,	0	3	9
,, ,, Miscible, 60° O.P .. .. .. ,,	0	5	0
Oils :—			
Cotton-seed .. .. per ton	22	0	0
Linseed .. .. ,,	21	10	0
Petroleum, Russian .. .. per gallon	0	0	3½
,, American .. .. ,,	0	0	5½
Phosphorus (yellow) .. .. per lb.	0	2	2
,, (red) .. .. ,,	0	2	9
Potassium (metal) .. .. per oz.	0	3	7
,, Bichromate .. .. nett per lb.	0	0	4
,, Carbonate, 90% (ex ship) .. .. .. per ton	16	10	0
,, Chlorate .. .. per lb.	0	0	7
,, Cyanide, 98% .. .. ,,	0	2	0
,, Hydrate (Caustic Potash) 80/85 % .. per ton	21	15	0
,, ,, (Caustic Potash) 75/80 % .. ,,	20	10	0
,, ,, (Caustic Potash) 70/75 % .. ,,	20	0	0
,, Nitrate (refined) .. .. per cwt.	1	2	6
,, Permanganate .. .. per cwt.	3	5	0
,, Prussiate Yellow .. .. per lb.	0	0	10½
,, Sulphate, 90 % (ex ship) .. .. .. per ton	9	15	0
,, Muriate, 80 % (do.) .. .. .. ,,	8	0	0
Silver (metal) .. .. per oz.	0	2	6½
,, Nitrate .. .. ,,	0	2	10
Sodium (metal) .. .. per lb.	0	3	4
,, Carb. (refined Soda-ash) 48 % .. nett per ton	5	5	0
,, ,, (Caustic Soda-ash) 48 % .. ,, ,,	4	5	0
,, ,, (Carb. Soda-ash) 48% .. .. ,, ,,	4	5	0
,, ,, (Carb. Soda-ash) 58 % .. .. ,, ,,	4	2	6
,, ,, (Soda Crystals) .. .. .. ,, ,,	3	0	0
,, Acetate (ex-ship) .. .. ,,	15	10	0
,, Arseniate, 45 % .. .. ,,	11	0	0
,, Chlorate .. .. per lb.	0	0	8½
,, Borate (Borax) .. .. net, per ton.	28	0	0
,, Bichromate .. .. ,, per lb.	0	0	3½
,, Hydrate (77 % Caustic Soda) (f.o.b.) net pr. ton (10 ton lots)	11	0	0
,, ,, (74 % Caustic Soda) ,, ,, ,, (10 ton lots)	10	5	0
,, ,, (70 % Caustic Soda) ,, ,, ,, (10 ton lots)	9	5	0
,, ,, (60 % Caustic Soda) .. ,, ,, (10 ton lots)	8	5	0
,, ,, (60 % Caustic Soda, cream) (f.o.b.) ,, (10 ton lots)	8	0	0
,, Bicarbonate .. .. ,,	6	15	0
,, Hyposulphite .. .. ,,	6	0	0
,, Manganate, 30% .. .. ,,	16	0	0
,, Nitrate (95 %) ex-ship Liverpool .. .. per cwt.	0	9	4½
,, Nitrite, 98 % .. .. per ton	29	10	0
,, Phosphate .. .. ,,	15	0	0
,, Silicate (glass) .. .. per ton	5	7	6
,, ,, (liquid, 100° Tw.) .. .. .. ,,	4	5	0
,, Stannate, 40 % .. .. per cwt.	3	0	0
,, Sulphate (Salt-cake) .. .. per ton.	1	0	0
,, ,, (Glauber's Salts) .. .. ,,	1	10	0
,, Sulphide .. .. ,,	8	10	0
,, Sulphite .. .. ,,	5	15	0
Strontium Hydrate, 100% .. .. ,,	8	10	0
Sulphocyanide Ammonium, 95 % .. .. per lb.	0	0	7½
,, Barium, 95 % .. .. ,,	0	0	5½
,, Potassium .. .. ,,	0	0	7½
Sulphur (Flowers) .. .. per ton.	8	0	0
,, (Roll Brimstone) .. .. ,,	6	10	0
,, Brimstone : Best Quality .. .. .. ,,	4	2	6
Superphosphate of Lime (26%) .. .. ,,	2	7	6
Tallow .. .. ,,	28	0	0
Tin (English Ingots) .. .. ,,	75	10	0
Tin Crystals .. .. per lb.	0	0	6¾
Zinc (Spelter) .. .. per ton	16	2	6
,, Chloride (solution, 96° Tw.) .. .. .. ,,	5	15	0

THE

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LATE ADVERTISEMENTS.

SOAP AND PERFUMERY AND ALLIED TRADES DIRECTORY, 1894.

ORDER EARLY.

THIS important Directory will be published in February, and contain the addresses of all the leading SOAP, CANDLE, PERFUMERY, etc., Makers in England, Scotland, Ireland, Australia, Canada, etc. Subscription 5s. Late advertisements can be received up to February 12 at the rate of £4 a page, or *pro rata* (remittance with order).

ADDRESS—

THE PROPRIETOR, Soap and Perfumery Trade Directory, 36, Hardy Terrace, Wood Green, N.

Cheques and Postal Orders to be crossed "London and Provincial Bank."

MANCHESTER CORPORATION GAS WORKS.

TAR AND AMMONIACAL LIQUOR.

THE Gas Committee of the Manchester Corporation are prepared to Receive TENDERS for the Purchase and Removal of the Tar and Ammoniacal Liquor to be produced at their Droylsden Station during a period of one or more years from the 31st March, 1894. The Committee do not bind themselves to accept the highest or any tender. Sealed tenders addressed to the Chairman of the Gas Committee, and endorsed, "Tender for Tar and Liquor, Droylsden," must be delivered at the offices of the Gas Department, Town Hall, on or before Thursday, the 22nd day of February, 1894.

Forms of tender and further particulars may be obtained on application in writing to Mr. CHARLES NICKSON, Superintendent of the Gas Department. By order of the Gas Committee.

WM. HENRY TALBOT, Town Clerk.

Town Hall, Manchester, Feb. 2nd, 1894.

LATE TENDER.

MANCHESTER CORPORATION GAS WORKS.

TO TAR DISTILLERS AND OTHERS.

THE Gas Committee of the Corporation of Manchester are prepared to RECEIVE TENDERS for the PURCHASE and REMOVAL of the GAS TAR to be produced at their several stations during a period of one, two, or three years, commencing as follows, viz.:—

Bradford Road Station, from noon on the 31st March, 1894.
Rochdale Road Station, from noon on the 24th June, 1894.
Gaythorn Station, from noon on the 1st August, 1894.

The Committee do not bind themselves to accept the highest or any Tender, and reserve the right to divide the Tenders as they may consider advisable. Sealed Tenders (addressed to the Chairman of the Gas Committee, and endorsed "Tender for Tar") must be delivered at the offices of the Gas Department, Town Hall, on or before Thursday, the 1st of March next. Forms of Tender and other particulars may be obtained on application in writing to Mr. CHARLES NICKSON, Superintendent of the Department.—By Order of the Gas Committee,

WM. HENRY TALBOT, Town Clerk.

Town Hall, Manchester, Feb 2, 1894

CURRENT TOPICS.

A COMEDY OF ERRORS.

TO popularise science is a difficult task, and the successes in this direction can be more easily counted than the failures, while the men who are capable of accomplishing the task are still fewer in number. Seeing that current literature is answerable for the statement we have just made—literature which is written by men who may justly lay claim to a good scientific education—it is obvious that but feeble results can be expected when anyone gifted with but a smattering of the sciences, endeavours to convey detailed information to the newspaper-reading public concerning matters chemical.

We have more than once dealt with such attempts to convey to the populace a comprehensive idea of the work attending the conduction of, say, a chemical works for instance, and a very fair specimen of the muddled-medley of facts and fiction which is usually collected by a newspaper correspondent (and which is propounded in the belief that all the wonders related are *bonâ-fide* and the horrors unvarnished) was published last week in one of the latest weekly ventures. Though to anyone having but a slight acquaintance with such matters it is easy to read between the lines, and to divest the truth of the garb of hyperbole, in which it is at times almost hidden; yet such statements are likely to have a very different effect upon the general public, whose sympathies are frequently in this manner unduly biased. It is on this account particularly desirable when the description of a works or manufacturing process is essayed, that the same should be as correct as possible, especially now that the question of labour in chemical and allied works has become a subject for special legislation.

Dealing with statistics, as we have remarked on a previous occasion, is as dangerous as toying with edged tools, and both employers and employés should be very circumspect concerning statements of rates of mortality and the like; since to be satisfactory, figures of this kind must have been obtained only after carefully considering the question from both points of view. That there is room for improvement in many points concerning the welfare of chemical operatives, we do not wish to deny, but when reasonable steps are being taken to mitigate such matters, and while the eight hours' day system is also now to be given a fair trial by the United Alkali Company Limited; distorted and exaggerated accounts of what chemical workers have to put up with, and which must unduly prejudice the public, are scarcely justifiable. Two blacks don't make a white, and comparisons are odious, but the conditions of labour in trades other than chemical are not infrequently as hard and exacting as the circumstances which enable chemical workers to pose as martyrs. In the article to which we have been referring a great point is made of the hardships under which the men have to partake of their meals, but it is doubtful if they are anything

like as badly off in this connection as tram-guards and drivers, who are, so to speak, a step higher up the social ladder of labour.

We could say much concerning the "information" which the article contains, but to do so would perhaps after all be but waste of time, as evidences of ignorance and an inadequate acquaintance with the subject which is being handled are discernible in almost every paragraph. In short, the tone of the article, and also the intrinsic value of the information contained therein, may be easily gathered when we find descriptions of red-hot bleaching powder chambers, and bleach that burns.

A WORD ON WHITE LEAD POISONING.

In our colums this week an account will be found of an inquest which was held recently touching the death of a girl who died from lead poisoning. The position of manufacturers is there clearly shown to be an unenviable one, in that they have to bear the blame which should fall chiefly on the heads of the parents and the victim herself. The manager knew nothing of the girl's illness except through a side wind. Complaint had not been made to the foreman, though the girl had been ill repeatedly. Strange to say, her sister was apparently unaffected. The mother and father say they were against the deceased girl again going to the works after having once been ill. It must have been but feeble opposition which permitted the girl, after a second attack of lead poisoning, to regain admittance to the same works a third time and continue her work till she left for good.

Apart from the difficulty manufacturers have in maintaining the enforcement of their rules, owing to the carelessness of their hands, they are also further troubled by the ruses adopted to gain employment; the good wages often inducing many to do so at any risk, the brunt of which the manufacturer has subsequently to bear when fatal results accrue. In verdicts of such cases it seems as if in common justice mention should be made of the fact that the deceased, and may be the parents, are in a measure culpable on the score of contributory negligence, but it seldom appears. On the whole, we should think white lead makers would not be very sorry if the Goverement did ultimately put a stop to all female labour in such works, as by protecting the females against themselves manufacturers would also enjoy a certain share of protection.

THE APPLICATIONS OF LIQUID AIR.

A FURTHER advance in the demonstration of the properties of liquid air has been made recently by Professor Dewar at the Royal Institution, when liquid air was shown in a condition which, though probably offering nothing novel to the eye of the untrained observer, is yet essentially different from anything hitherto shown on a lecture table. It has always been seen either in a state of active ebullition at ordinary pressure or of steady evaporation at the lower temperature produced by the action of an air-pump. On the present occasion, however, it was shown as a permanent fluid giving off no gas. The importance of the complete isolation of the liquid lies in the fact that exact experiments can be made for the determination of its specific and latent heat. By lowering into the liquid a definite mass of platinum and measuring the gas evolved, it is easy to calculate the heat that becomes latent in converting the liquid into gas. Using similar methods to heat the liquid to a definite extent without altering its condition—*i.e.*, without converting it into gas—the specific heat can be calculated from the variation of pressure as registered by a column of mercury.

Professor Dewar also carried out a very simple but very striking experiment which forcibly demonstrates the molecular theory. He took a high vacuum bulb containing only a minute quantity of mercurial vapour, to which was connected by a short neck of from a tenth to an eighth of an inch bore a smaller bulb containing liquid mercury. On *applying liquid air* to a portion of the arger bulb the contained vapour was at once condensed as a small mirror. On applying the liquid to a second portion of the glass no further condensation was obtained, thus proving that the metallic surface a couple of inches below could not supply vapour to replenish the larger bulb. But on inclining the apparatus so as to pass a globule of mercury into the larger bulb itself the cold spots on the glass were instantaneously covered with dense metallic deposits. Of the myriads of molecules projected in all directions from the liquid mercury in the smaller bulb only a small percentage—which might be determined by the theory of probabilities—struck the orifice of the neck in such a way as to shoot clean through into the larger bulb. Hence the loss from condensation could not be made good, although there was free communication with another chamber containing vapour at a relatively high pressure.

The method of determining the tensile strength of metals at 180° below zero is also very interesting. Large quantities of liquid air are necessary, since the considerable mass of metal forming the jaws of the testing machine has to be completely immersed. The results are extremely interesting. The breaking strain is in all cases greatly increased, and in some—*e.g.*, iron and German silver—is nearly doubled. In the case of certain metals equally remarkable increase occurs in the percentage of elongation before rupture, though the results on this point require verification. Thus, while chemical forces are in abeyance at very low temperatures, the physical force, which we call cohesion, asserts itself with immensely increased power. This is of great importance in connection with theories which have been ably advocated in some quarters, according to which a sufficient reduction of temperature would reduce the universe to "cosmic dust."

Low temperature was shown to have a remarkable effect upon the colour of many bodies. For example, the brilliant scarlet of vermilion and mercuric iodide is reduced under the influence of intense cold to a pale orange, the original colour returning with the rise of the temperature. Blues, on the other hand, are unaffected by cold, and the effect is comparatively small upon organic colouring matters of all tints. This is of interest in connection with the efforts that have been made to find a chemical explanation of the colour of salts, and, indeed, with the phenomena of isomorphism in general.

HOW DEATHS FROM WHITE-LEAD POISONING OCCUR.

An inquest was held at Greenwich last week as to the death of Sarah Jane Tidy, aged 20 years.—Mary Ann Tidy said that her daughter had worked at the Millwall White Lead Works on and off for about three years. Every time she left the works she was ill, on one occasion for four months, part of which time she was in hospital, and on another occasion was five weeks in the infirmary. The last time she was at the lead works only about three weeks, when she came home ill in November, and entered the infirmary. Witness saw her on Wednesday, when she was unconscious, and the next day witness heard she had died in the night. Her eyes had been bad since she was taken ill two years ago. The witness and her father were both against her going to the lead works. The witness had another daughter, named Emma, aged 19, who had also worked there, but had never been affected. The deceased preferred going to the lead works to domestic service. The witness was not going to let Emma go back to the works.—The Coroner said that he could not understand how mothers could let their daughters go to such a killing place, and it was a pity the witness did not come to the same conclusion with the deceased as she had with Emma. Mr. Smith, foreman at the works, said the deceased had never complained to him of feeling ill. The women had to carry white lead and turn it into a tub, water being poured on the lead at the time. It was considered a dangerous occupation, and stringent rules were enforced. He was not aware that on every occasion deceased left she was ill. The firm gave the woman a doctor gratuitously when ill, and in the case of the deceased he believed the doctor was twice applied for.—Mr. Taylor, manager, said he first heard of the deceased being ill from the Coroner (at an inquest in December last at Deptford on another woman who died from lead poisoning), and then Dr. Hartt was asked to attend the deceased. A Committee of the House of Commons had suggested the doing away with female labour in white-lead works at the end of two years, and they were gradually reducing the number of women employed.—Dr. Keats, who had made a *post-mortem* examination, said that the cause of death was white-lead poisoning.—After some further evidence, the Coroner said this lead working was the most dangerous occupation he knew of. The firm knew nothing of a number of cases until he mentioned them. The girls really wanted to be protected against themselves. They were induced by good wages to take up the work, although knowing the pain some suffered, and many became, in consequence, a burden upon the ratepayers.—The jury returned a verdict that the deceased died from lead poisoning, through working in the "beds" at a white lead factory.

A NEW TYE JOINT.

A NEW kind of joint for all kinds of plumbing, but especially chemical plumbing, has recently been introduced by the Portable Oil Furnace Company, Limited, of Nottingham, which can be made by means of their new patent tye-joint moulds. These moulds are something new to the plumbing world, as they claim to make plumbing joints with either lead or solder without obstructing the waterway, or using brass tube for the inside of the lead pipe. This has been wanting for some time, especially in the case of chemical works, as ordinary solder is practically useless in such cases The tye-joint mould entirely does away with all old difficulties, such as weeping and sweating of joints, through the solder being porous, as lead is the material used. Every joint is guaranteed to stand a pressure of 600lbs. per square inch. The joints are made proportionate in strength to the size of the pipe.

The cost is also another noteworthy feature, as these moulds make better joints with old lead worth about one penny per pound, than can be made by the old method of "wiping", with solder costing about sevenpence a pound.

THE MANUFACTURE OF ALUMINIUM.

IN a lecture dealing with this subject and delivered on Saturday, last week, at a meeting of the Manchester Association of Engineers, Mr. W. S. Sample, of the Patricroft Magnesium and Aluminium Metal Company, said that the development of the electrolytic processes for making aluminium created a demand for pure alumina, and manufacturers had succeeded in supplying an article over 99 per cent. pure, the 1 per cent. being made up principally of water and silicon. Pure carbon electrodes were necessary, and these were furnished with a fraction of 1 per cent. of ash. The result was that aluminium was made so that the entire product was over 99 per cent. pure, which was much better than the regular results obtained by the chemical processes. As the methods at present employed consisted of the direct reduction of the oxide of the metal, it did not seem possible to have a more simple process, and not probable that a more complicated compound could be treated in a more economical manner. It might be inferred, therefore, that further cheapening of aluminium would depend upon the greater consumption of the metal, and also upon cheaper power and materials, and the consequent decrease in the average general expenses with greater output. The present total output of pure aluminium was between four and five tons per day, which was more than the annual production up to 1886. This rapid increase in production had been due primarily to the decreased selling price, which encouraged consumers to make practical use of the metal. The present consumption might be graded into three classes, each of which took about equal parts. These were iron and steel, brass and bronze, and pure metal. The best testimonial was the continued use of the metal by both iron and steel makers, and brass and bronze founders. The properties of aluminium had been greatly exaggerated and as greatly depreciated by many writers. Notwithstanding the difficulties in perfecting a new process and in introducing a new metal, it had obtained a place among the metals of ordinary and daily use, and its position was continually being made more secure by a further appreciation of the uses to which it had been put successfully, and by new uses to which it was being applied almost daily.

SOCIETY OF CHEMICAL INDUSTRY.

SCOTTISH SECTION.

THE January meeting of this section (held in Glasgow) was exclusively taken up with a discussion on the shortcomings of the British Patent Laws. Mr. C A. Fawsitt, chairman of the section, presided. This discussion had been looked forward to with considerable interest, and there was a very good attendance. Previously, the committee had been in communication with various patent agents and experts, inviting them to be present, with the result that a good many of these put in appearance. As a consequence the meeting had quite a different aspect from that of an ordinary gathering of the section, and, as it proved, the bulk of the speakers were strangers. Mr. Fawsitt opened the proceedings. The question, he said, was a general one, affecting the whole body of inventors, but they would confine themselves chiefly to the incidence of these laws on the patenting of chemical processes. That oppressive defects existed, could not be denied. Some looked to the Chambers of Commerce for a practical initiative, but these bodies, he thought, were constitutionally disqualified for reformatory work of this precise sort, and should not be relied on. For a pattern, some turned to the United States, where prior publication did not invalidate a patent, as it did here, and that certainly was an advantage. The German laws also differed essentially from ours, and, comparing the two, he put it this way—that here, patents were very easy to get, but very difficult to defend, while in Germany they were difficult to get but easy to defend afterwards. Chemical patentees here had frequently the greatest difficulties to face, and were often worsted. Some inventors tried too much, seeking not only to patent their existing ideas, but ideas which were as yet only possibilities. Something should be done to make the patentee less vulnerable on the one hand, and on the other to hinder him from cramming too much into his patent at the beginning. German patentees extending their patents to this country should be required, as a condition, to manufacture in Britain for British consumption at least. Such industries as those of the aniline dyes were practically banished from our shores by the short-sightedness of the British patent laws, and until these laws were reformed they would continue banished. Mr. J S Macarthur, inventor, Glasgow, followed. The aniline dye manufacturers had found no footing in this country, but he did not blame the patent laws for that. Alcohol entered largely into that manufacture, and alcohol in this country came under a duty which was altogether prohibitive in that sense. Germany behaved differently, and there the aniline industry found a congenial abiding-place in consequence. Prior publication ought not to invalidate a patent, and he thought all opposing pleas of want of novelty should be barred unless advanced within one year of the date of the patent. Patents of quite extraordinary success might, perhaps, be made to bear an extra load of taxation. The patent laws of all countries were defective, and on the whole he rather preferred our own to those of Germany or America. Mr. Symons, patent agent, thought that "extraordinarily successful" patentees were taxed quite enough when they paid income tax. The British system of provisional protection he thought excellent—with nothing like it anywhere else. Compulsory manufacture in Britain by patentees of foreign nationality would hardly work, he thought, but home manufacturers ought to possess the right to manufacture under any such patent, at royalty rates kept within bounds by the Board of Trade, failing amicable arrangement with the patentee. Subsequent speakers were Messrs. G. T. Beilby, Bottomley, Paterson, Lockwood, &c., and all through the utmost diversity of conviction was shown One liked the American system but not the German, another thought the British system the worst of all, while a third cautiously put it, that while the British laws were by no means perfect they were very far from being the worst in the world. This speaker thought the present fourteen years too brief a term, and that it should be extended to seventeen. After the chairman's opening remarks the debate retained no distinctive reference to chemicals, but wandered rather purposelessly over quite a wide field. No progress whatever was made beyond the relegation of the further consideration of the subject to a sub-committee of the section on the proposal of Mr Beilby. The report of this committee will be brought up at a subsequent meeting.

SOCIETY OF CHEMICAL INDUSTRY: *London Section.*—The next meeting of this section will be held on Monday, 5th inst., at the rooms of the Chemical Society, Burlington House, at 8 p.m., when papers will be read on "An Interesting Explosion Caused by Sodium Peroxide," by Dr. A Dupré; and "The Theory of Dyeing, Part I., Ingrain Colours," by Mr. P. W. Dreaper.

SOCIETY OF CHEMICAL INDUSTRY: *Liverpool Section.*—A meeting of this section will be held on Wednesday, 7th inst., at 7.30 p.m., in the Chemical Laboratories, University College, Brownlow-street, when papers will be read on "The Manufacture of Straw Cellulose," by Mr. James Beveridge; and "The Manufacture of Calomel in Japan," by Professor E Divers, F.R.S.

Trade Notes.

Olive Oil Trade of Mitylene.—The Belgian Vice-Consul at Mitylene states that the crop of olives, the chief product of the island, was very abundant in 1893. The quality of the new oils, suitable for lubricating purposes, is exceptionally good, and the prices vary between 4 francs 75 centimes and 5 francs per lain (17·5 poods avoir.) Large consignments of these oils are annually sent from Mitylene to England and France.

Obituary.—Mr. Dougald McCallum, soap maker at Messrs. Irvin Bros., Liverpool, died very suddenly on Sunday evening last, in St. Andrew's Church, Birkenhead. He was 79 years of age, and of Highland descent. Throughout his life he was engaged in the soap industry, and in youth, before the discovery of the Leblanc process, he was engaged in the production of kelp, then so largely used by soap manufacturers. Shortly after Courtois, the Paris saltpetre manufacturer, discovered iodine, Mr. McCallum was employed in its production. He was well known not only in Liverpool, but at Glasgow, Bradford (Yorkshire), and Widnes, and much respected by everyone who knew him.

An Eight Hours' Day in the Alkali Trade.—The United Alkali Company has decided to give the principle of the eight hours' movement a fair trial. They have forwarded to the managers of the Widnes, Runcorn, and other district works orders to place the workmen engaged in specific departments on shifts of eight hours each. The Commission that recently inquired into the question suggested that the reduction of hours in chemical works could be adopted with advantage. The new system was to commence during the present week.

Drowned in Caustic.—Henry Vincent Dewar, aged fifteen, recently met with a terrible death at the Hardshaw Brook Chemical Works, where he was learning chemistry. It appeared to be part of his duty to collect samples from various parts of the works and take them to the laboratory. He had been sent to a chlorate of soda drainer for a sample, and it is presumed that he slipped from the ladder and fell into the boiling liquor, which was 3ft. 9in. deep. No one saw the accident, and when he was found he was dead, the liquor having produced a terrible effect.

Particulars of Shipping per Ship Canal.—An interesting and useful collection of information for importers and exporters regarding the working of the Manchester Ship Canal has been sent us, copies of which can be had at the Dock Office, Trafford-road. The chief points dealt with are the working of the Canal with the Bridgewater department; means of communication between the docks and surrounding districts; cartage arrangements and labour services; regular lines of steamers continental and coastwise; shipowners and others who arrange for the conveyance of cargo *viâ* Ship Canal.

River Pollution Prosecution at Bury.—At the Bury Police Court this week, Messrs. J. Whitehead and Son, bleachers and dyers, of Lowercroft, were summoned for causing to fall into a brook, which is a tributary of the Irwell, on two different dates, poisonous, noxious, and polluted liquid, and also with permitting the same. Mr. Sutton prosecuted on behalf of the Joint Committee, and Mr. Wright, of Preston, defended. (*Vide Chemical Trade Journal* 300, p. 179.) Mr. Sutton said that letters and resolutions had passed between the committee and the defendants since 1891, but nothing had been done by Messrs. Whitehead, who dealt with two million gallons of water daily, beyond providing one tank. One tank was not sufficient to treat the effluent continuously, and there was no attempt at precipitation. The defence was that reasonable means had been taken to abate the nuisance. The Bench imposed a fine for each offence on one day of £5., and £5 costs, altogether £20., and made an order to abate the nuisance in twelve months.

Petroleum in Somersetshire.—For several years past the Ashwick Court, Shipton Mallet, have complained of the well whence the supply of water for domestic and other purposes is obtained. During the drought last year the cause was discovered to be petroleum oil, of which a considerable quantity was obtained from the well. Subsequently expert advice was sought, and on Friday, last week, Professor Boverton Redwood and Mr. Topley, Government geologist, proceeded to the spot and surveyed the neighbourhood. On Saturday they continued the survey and examined a number of witnesses. The water in the well was then found to be only slightly affected, but the oil globules were pronounced by Professor Redwood to be characteristic of crude petroleum, and this, together with the isolated position of the house and the quantity of oil spoken to by witnesses, satisfied the experts that no accidental leakage had drained into the well. The opinion was soon corroborated, for as water was pumped out the quantity of oil increased. The pumping was increased on Monday, and the bottom will probably be reached soon, when further investigations will be made. The place is on the northern border of a Somerset coalfield.

Discovery of Coal.—Coal has been discovered on the Broxby estate, near Kaber, Westmorland. The seam is of good quality, and the find, in view of the great price of coal, is looked upon as of much importance in the district.

Selected Correspondence.

A MANCHESTER FOREIGN AND COLONIAL PRODUCE MARKET.

[*To the Editor of the Manchester Guardian.*]

Sir,—A correspondent (Mr. F. B. Lendy) calls attention in your paper to a branch of trade which ought to be, and no doubt will be, in due time attracted to our port. A glance at the advertising columns of the *Economist*, *Public Ledger*, and *Liverpool Post* will give an idea of the enormous masses of foreign and colonial produce disposed of daily at the public sales in London and Liverpool. These include such widely different products as logwood, fustic, sumac, cutch, rubber, hides, skins, tallow, bones, bone ash, resin, seeds, oils, minerals, and the many other natural products of foreign countries which find useful employment in the manufacturing arts, &c., in and near Manchester. Your correspondent seems to have in view the formation of a body on the lines of the Liverpool General Brokers' Association, which does admirable work in the collection of authoritative statistics, current prices, &c., which it publishes daily and weekly. Its conditions of sale are accepted as final in all produce transactions. It is doubtful whether the time has yet arrived for forming such an association here. Produce auctions will no doubt become daily occurrences in Manchester, and when they do it may be found desirable to form a brokers' association. In the meantime it appears to us that the Chamber of Commerce is the proper body to safeguard the interests of this important branch of the import trade, and the Chemical Section is perhaps the most nearly allied to, and strongly interested in the produce trade. We would therefore recommend merchants receiving consignments of produce to apply to the able chairman of the Chemical Section of the Chamber of Commerce, Mr. I. Levinstein, who would doubtless furnish names of reliable brokers to whom such consignments could be entrusted for sale.

As to establishing a produce exchange, the only suitable place for transacting such business is the Royal Exchange. The importers are there already, and they must be able to communicate at any moment with their brokers. Probably the greater number of those able and willing to conduct the business of brokers already meet in the "Chemical Corner" of the Royal Exchange, and the directors would therefore be spared the difficulty of finding quarters for a new influx of members. After experience might prove the advisability of locating the foreign produce market definitely, say, in the west gallery, where reports from other markets at home and abroad could be posted, along with a "slate" for public sales, similar to that on the Liverpool Exchange. It might even be possible to hold the produce auctions at one end of this little-used gallery. A revolving shutter would give all the privacy needed, and it would only be required for about an hour each day—say from a quarter to twelve to a quarter to one o'clock.

Possibly these suggestions may serve as a first step towards the realisation of what is desired—viz., the establishment of a recognised Manchester market for foreign and colonial produce.—Yours, &c.,

F. S. Bayley & Co

88, King-street, Manchester.

ANSWERS TO CORRESPONDENTS.

J. M.—Thanks for report duly received.

J. B. N.—We have sent one as requested to your client in Seville.

Cardiff.—It shall be forwarded in due course.

G. C. D.—Thanks for particulars.

B. and Co. (Rotterdam).—Advices duly to hand, for which we are obliged.

J. B., F. N., J. C. and Son.—By post this week. It is the earliest we could manage in connection therewith.

Market Reports.

HULL PAINT, OIL, AND COLOUR REPORT.

TUESDAY.

OILS.—A better feeling appears to pervade the business atmosphere here, and freights are upon the improve, which is considered to be a good omen The principal imports to date compared with same time a year ago include the following: Linseed 61,894 qrs. against 13,992 qrs, rapeseed 16,686 qrs. against 7,380 qrs., cottonseed 24,317 tons against 26,335 tons, olive oil 1,446 casks against 1,287 casks, rape oil 764 casks against 496 casks, oilcakes 3,003 tons against 1,562 tons, tallow 2,688 cwts against 4,994 cwts., turpentine 1,483 brls against 36 brls Linseed oil after being rather firmer closes quiet at 19s 7½d. naked spot; January-April or May-August offer at 19s. 6d, and September-December still quoted 19s. Casks 17s. 6d. and ordinary barrels 22s. 6d per ton extra Boiled and refined from £1. to £2. per ton extra Export for the week 1,040 cwts. Refined cotton oil quiet at 19s. 1½d naked spot. February-April 19s. 3d, May-August offer at £1. Crude 17s. 6d. naked spot Export for the week 3,520 cwts. Olive oil in slack demand and prices nominal. Turpentine 23s. in barrels Cod oil £17. 10s. to £19. 10s. Sod oil for curriers etc., much inquired for from £16 per ton Pale seal oil from £21 per ton Castor oil in improving value Brown wool grease from £8 per ton Engine and cylinder oils from 1s. to 2s. per gallon. Petroleum jelly from 26s per cwt. in bulk

CAKES.—Linseed casks: Quiet but steady, 95 per cent. pure, £8. 15s. per ton; ordinary, £7. 5s. to £7. 10s.; Russians, £8 5s. to £8 10s; Polish, £8 10s. Cotton cakes: Deliveries fairly good, but fresh sales not plentiful, best makes £5. second quality £4 15s to £4. 17s. 6d Rape cakes: East India, £4. 15s; Black Sea, £3. 15s. Feeding cakes, £5. 5s per ton

PAINTS.—The demand for time of year maintains an equal position to previous years. Oxide of iron, from £9. to £18 per ton; oxide of zinc paint, £22. per ton; Venetian red, dry, in casks free, from £6. to £10. per ton; lime blue, from 16s per cwt; white and red leads unchanged Ready mixed paints in tins of 1, 2, 4, 7, and 14 lbs from £26 per ton. Oak varnish from 5s. 6d. per gallon. Common black varnish, £5. 10s. per ton in barrels free.

LIVERPOOL OIL AND COLOUR MARKET.

WEDNESDAY.

OILS.—Palm oil is easier, and only a small business is passing. Lagos is worth £23. 10s, Benin £23., Old Calabar £22. 15s. per ton transit. Olive is rather quieter, and sells less freely at £31 10s to £38. per tun, according to quality. Linseed is again the turn easier, Liverpool makes in export casks being quoted 20s. 9d. to 21s. 6d. per cwt. Cottonseed is scarce on spot, and Liverpool refined is worth 21s. to 22s. per cwt. This firmness does not apply, however, to the forward market which is quiet, pending a decline. Castor oil is down in price, and rather slow of sale at 2⅜d. to 2 7/16d. per lb. for good seconds Calcutta, and First pressure French 2 9/16d. spot sales, and 2½d. near at hand. Tallow is steady, with a fairly good demand for North American at 27s. to 28s. per cwt., and South American 29s. to 30s., according to quality. Resins are quiet but steady on the whole. Spirits of turpentine are firm at 23s. 6d. per cwt. spot, and 22s. 9d. to arrive. Petroleum is dull. American continues 4¼d. to 5¾d. according to quality, and Russian refined 3¾d. per gallon.

COLOURS are steady without alteration in prices. Ochres: Oxfordshire, common, £10., medium, £12., best, £15.; Derbyshire, common, 40s.; medium, 50s., best, 60s.; Welsh, best, 70s., seconds, 50s., and common, 18s.; Irish, Devonshire, 40s. to 45s.; French, J.C., 55s. to 60s.; M.C., 65s. to 67s. 6d. Umber: Turkish quiet; Devonshire, 50s. to 55s. White lead, red lead, and oxide of zinc unchanged. Venetian red, £6. 10s. to £10. Cobalt: Prepared oxide, 9s. 9d.; black, 9s.; blue, 6s. Zaffres: No. 1, 3s. 6d.; No. 2, 2s. 6d. Oxide of iron: Common, £6.; medium, £10.; finest, £20. Zinc oxide, £23. to £25.

THE METAL MARKETS.

LONDON, WEDNESDAY.—Pig iron livelier: Scotch warrants closed at 43s. 6½d., Middlesbrough 35s. 11½d. cash, and hematite 45s. 7½d. Copper, quiet: Chili bars, G.O.B.'s and G.M.B.'s, closed at £41. 6s. 3d. to £41. 11s. 3d. cash, and £41. 15s. to £42. three months. Tin, quiet: Straits closed at £70. 17s. 6d. to £71. 7s. 6d. cash, and £72. to £72. 10s. three months; Australian, £71. 2s. 6d.; English ingots, £75. 10s. Lead, steady: Spanish, £9. 6s. 3d. English, £9. 7s. 6d. to £9. 10s. Silesian spelter ordinary, £16. to £16. 2s. 6d.; Nickel, 1s. 8½d. Antimony, £37. Quicksilver: £5. 16s 6d. to £5. 17s. 6d. *Copper shares* quiet: Cape, ⅛ to 1½. Copiapo, 1 11/16 to 1 13/16. Libiola, 3¼ to 3½. Mason and Barry, 2 3/16 to 2 7/16. Rio Tinto, 14¼ to 14⅜. Tharsis, 4¾ to 5

WOLVERHAMTON, WEDNESDAY.—The continued improvement at Glasgow and Cleveland again assisted the market. The reduction in ironworkers' wages was made use of by the "bears" for depressing manufactured iron prices, but makers resisted. Bars sold better at £7. 10s., marked sorts; and £5 15s, common. Hoops showed slightly more movement at £6 10s.; galvanised corrugated sheets £10 15s to £11. Black sheets—doubles, £7. easy. Good inquiry for pigs. Prices strong. Northampton and Derbyshire, 45s. to 46s, less discount; Lincolnshire, 46s. net; Staffordshire all-mines, 55s.

REPORT ON MANURE MATERIAL

Business continues on a moderate scale, but high prices prevent very large business for the most part. There are sellers of 75/80% Florida rock at 8¾d. per unit, c. f. & i. to good United Kingdom, but for Continent and Baltic 9d. per unit is required. We do not hear of any important business in South Carolina or Peace River rocks, raisers being mostly engaged in the execution of outstanding contracts. There is nothing fresh to report in River Plate bones in the absence of cargoes offering. Anything near at hand would fetch £4. 17s 6d. per ton. The value for shipment is about £4. 12s. 6d. per ton, delivered good United Kingdom ports. No further sales of crushed Kurrachee bones are reported, and nothing offering in first hands. January-February steamer shipment Bombay bone meal has been sold at £5. 2s 6d, ex quay Liverpool, but £5 3s 9d. is now required. On spot the value is about £5. 5s. Nitrate of soda is again a little firmer On spot the quotation is 9s. 4¼d. for good and 9s. 6d. for refined quality. Due cargoes are worth 9s. 2¼d. to 9s 3¾d., according to size and test. There is nothing to report in miscellaneous manure material

TAR AND AMMONIA PRODUCTS.

The position of benzol is less satisfactory than ever, particularly so for 90's. Though 50-90's are a halfpenny cheaper, good business has been done at the present quotation of 1s. 5d.; the price of 90's, however, has run down greatly, and current value is 1s. 3d. Crude naphtha, 30%, keeps steady at 8½d., and solvent naphtha, 90%, is the fraction easier at 1s. 3d. Anthracene for both A and B remains in *statu quo ante*. Crude carbolic acid, 60%, keeps at 1s. 8d., and is steady at the price. Pitch, practically, is without alteration, though it remains to be seen how long the present values will continue to hold good

Sulphate of ammonia has made a very distinct advance during the week, and the present position is well maintained. Current values are:—Beckton, £14. 10s.; London outside makes £14. 2s. 6d. to £14. 5s.; Liverpool, £14. to £14. 2s. 6d.; Hull, £14 2s. 6d.; Leith, £14. 5s. Forward business has received considerable attention at full prices for February-March delivery.

MISCELLANEOUS CHEMICAL MARKET.

There are no recent changes to report in values of any of the products of the alkali trade. A good, steady business continues to be done in all directions, both for prompt and forward delivery. Bleaching powder is in good request for spot delivery at £7 15s per ton, rails, makers' works, and £8. 5s., f.o.b., usual export casks. Price for contracts over the year for home trade is £7. 5s. nett, makers' works. For caustic soda, current quotations (subject to variation according to market) are as follows: f.o.b. Tyne, 77%, £11. per ton; f.o.b. Liverpool, 74%, £10. 5s.; 70%, £9. 5s.; 60%, £8. 5s.; cream, 60%, £8., 10-ton lots and upwards. In Leblanc soda ash and ammonia alkali there is no change in the position. Soda crystals still depressed. Chlorate of Potash 7¾d. spot, and 7½d. forward delivery. Recovered sulphur dull at £4. 2s. 6d. Nitrate of soda moves readily, and prices are firm at £9. 7s 6d. to £9. 10s. Acetates generally are without change: brown acetate of lime £6. 12s. 6d., grey £10. 5s. Soda £16. White acetate of lead (foreign) £26., c.i.f. Yellow prussiate of potash continues slow of sale, and price has a downward tendency. Sulphate of copper has more inquiry, and prices are rather firmer—£16. 5s., f.o.b., is quoted to-day. Ammonia salts continue to hold a firm position, and are scarce. Grey muriate quoted £24. Carbonate 3¾d Sulphocyanides are in better request, and higher prices are being obtained. Ammonium is quoted 7½d. to 8d., and barium 5¼d. Oxalic acid has advanced to 3¼d. White powdered arsenic is in very limited supply, and stocks are unusually light, sellers are firm at £14. at Garston.

TYNE CHEMICAL REPORT.

TUESDAY.

In Chemicals there is very little new. For the time of the year there is a fair demand, and shipments are fairly good High-test caustic still continues scarce at £10. 15s to £11. per ton Sulphur quiet at £4. 2s. 6d. Soda crystals, £2 7s. 6d. per ton locally Bleach, £7. 10s. to £7 15s.

Bleaching Powder, softs, £7. 10s. per ton, nett; hards, £7. 15s per ton, nett; caustic soda, 76/77%, £10. 15s. per ton, nett; do., 70%, £9. 5s. per ton, nett; recovered sulphur, 2cwt. bags, £4. 2s. 6d. per ton, nett; soda ash, 48%, £3. 15s per ton, nett; do., 52%, £4. 2s. 6d. per ton, nett; do, 56%, £4. 10s. per ton, nett; alkali, 36%, £3 per ton, nett; white alkali, 48%, £4. 10s per ton, nett; do, 50%, £4. 15s. per ton, nett; do., 52%, £5. per ton, nett; hyposulphite of soda, 5-7 cwt. casks, £5. per ton; do., 1 cwt. kegs, £5. 10s. per ton, nett; silicate of soda, 75° Tw., £2. 15s. per ton, nett; do., 100° Tw., £3. per ton, nett; do., 140° Tw., £3. 17s. 6d. per ton, nett; soda crystals, casks, £2. 7s. 6d. per ton gross weight; do., 2 cwt. bags, £2. 7s. 6d. per ton, nett; chlorate of potash, 8d. per lb, less 6%; pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £4 2s. 6d. per ton, nett; blanc fixe, £7. 10s. per ton, nett; chloride of barium, £7. 10s. per ton, nett; carbonate of alumina, £28. 15s. per ton, nett; aluminate of soda, £33. 15s. per ton, nett; in 5 ton lots, £28. 10s per ton, nett.

South Durham Salt is quoted from 9s. to 9s 6d. per ton f.o.b. Tees, with a steady demand.

Coals —Trade is quieter, and prices generally are somewhat lower. Best Northumbrian steam, 11s. 6d. to 12s per ton; small steam. 4s. to 4s. 3d. per ton; bunker coal, plentiful, 7s. 9d. to 8s. 6d. per ton; coke, dull, 15s. to 15s. 6d. per ton

WEST OF SCOTLAND CHEMICALS

GLASGOW, TUESDAY.

There is no improvement in the general market; in fact things are easier if anything. Chlorate of potash has made another drop of a fraction; nitrate of soda also inclines to favour the buyer's side, and sulphate of copper is again down a further mark. The demand for chemicals is a very slow one.

Sulphate of ammonia, as an exception, has continued to grow in strength, and £14. 5s. is reported to have been paid for February and March fulfilment. There is a feeling that for prompt business it would be very difficult for buyers to carry through anywhere at less than £14. 2s 6d, and that in face of the fact that the views of continental buyers, according to latest advices, are rather towards an easing of the market

Mineral oils and paraffins are still fairly well in demand at the low prices current, but the season is now past its busiest, and calls must slacken perceptibly. While there is no change in the home-manufactured solid paraffin, it is rather in its favour to hear that American white scale, hitherto 2d. per lb., has been raised to 2⅜d.

Chief prices current are:—Soda crystals £2. 7s. 6d nett, Tyne; soda ash £3. 17s. 6d. nett, Tyne; white alkali 48/52° £4 10s to £5. nett, Tyne; alum in lump £5. nett, Glasgow; caustic soda, white, 74° £10. 10s., 70/72° £9. 5s, 60/62° £8. 5s., and cream 60/62° £8., all nett, Liverpool; bleaching powder £7. 15s.. nett, Tyne; saltcake, 20s.; borax, English refined, £30., and boracic acid, £37. 10s. nett, Glasgow; bicarbonate of soda, 5-cwt casks, £6 10s., and 1 cwt. casks £6. 15s. nett, Liverpool; bichromate of potash, 4½d. nett, for Scotch and English deliveries (for export, 4¼d. nett, f.o.b. Glasgow); bichromate of soda, 3¾d. nett, for Scotch and English deliveries (for export, 3½d. nett, f.o.b. Glasgow); chlorate of potash, 8d. less 5%, Liverpool; nitrate of soda, 9s. 4½d. to 9s 6d; sulphate of ammonia, £14. to £14. 5s., f.o.b. Leith; salammoniac, first and second white, £39 and £37. nett, any port; sulphate of copper, £15. 5s. 0d less 5% Liverpool; paraffin scale, hard 1⅞d., and soft 1⅝d. per lb.; paraffin wax 120° semi-refined 2¾d.; paraffin spirit (naphtha) 4½d. per gallon; paraffin oil, burning, standard No 1 grade, 5d at works, for Scotch buyers (English sales, ½d to ¾d lower), ditto (lubricating) 865° £4 7s. 6d. to £4. 10s, 885° £4. to £5 10s, and 890/895° £5 to £6. Week's imports of raw sugar at Greenock were *nil*.

New Companies.

Worcester Glue, Size, and Tallow Manufacturing Company, Limited.—CAPITAL £5,000. in £1. shares. This company has been formed to carry on the business of soap boilers, manufacturers of tallow, size, and gelatine, etc.

William Mitchell, Limited.—CAPITAL £5,000. in £1. shares. This company has been formed to acquire from the executors of the late W. Mitchell the brass-founding and tube-drawing business now carried on at Saltley Works, Birmingham.

Frank Pearn and Company, Limited.—CAPITAL £60,000 in £10. shares. This company has been formed to take over the Manchester Pump Works at West Gorton, and to carry on the business of engineers, etc. The subscribers to the memorandum of association are: F. Pearn, Princes-road, Heaton Chapel, Lancashire, engineer; S Pearn, Burnage House, Burnage, engineer; T. Addyman, Bramhall, Cheshire, engineer; W. A Pearn, Newton Avenue, Longsight, engineer; A Pearn, Princes-road, Heaton Chapel, married woman; M. Pearn, Burnage House, Burnage, married woman; J W Addyman, Belmont Starbeek, Harrogate, solicitor.

Economic Smokeless Fire Company, Limited — CAPITAL £120,000. in £5. shares. This company has been formed to purchase certain patents of Messrs. Marsh and Leggott and to carry on the business of makers and dealers in grates, boilers, heating apparatus, etc. The subscribers to the memorandum of association are:—T. Priestly, Bank Top House, Bradford, manufacturer; C. Briggs, Hollingreave House, Bradford, gentleman; H. Leggott, Thorp House, Hipperholme, engineer; S. L. Tomkins, 50, Perham-road, London, W, gentleman; T. R. Haslam, 4 Copthall Chambers, London, E.C., solicitor; J. Popplewell, Hill Side Villa, Bradford, manufacturer; E. P. Milne, Castle Mill, Lancashire, manufacturer.

Gazette Notices.

PARTNERSHIP DISSOLVED.

F DUCKWORTH and W. R ASHWORTH, Radcliffe, under the style of John Duckworth, drysalter.

The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of George E. Davis and Alfred R. Davis, who report professionally upon the value of Chemical Patents.

APPLICATIONS FOR ENGLISH LETTERS PATENT.

Dust Collecting Apparatus. W. C Morison 848. January 15.
Smoke-Consuming Furnaces. W. Khlebnikoff. 904. January 15.
Paper Pulp Beating Engines. J. P. Cornett. 945. January 16.
Purifying Oils, Fats, etc. C. H. Gray. 963. January 16
Production of Anthraquinone Derivatives. H. E. Newton. 973. Jan. 16.
Colouring Matters derived from Anthraquinone. H. E. Newton. 974. January 16
Manufacture of Hydroxyanthraquinones. H. E. Newton. 975. January 16.
Separating Air richer in Oxygen or Nitrogen than Atmospheric Air, and supplying the same to Furnaces, or for purposes to which the quality of the air renders it suitable. J. H. Lee. 999. January 16
Draught-Air Heating Apparatus. M. C. Browne, 1,004. January 16.
Safety Boxes for Compressed Gas Cylinders, etc. F. W. Branson 1,035 January 17.
Improvements in Drying and Calendering Apparatus. A. Chantrenne 1 066. January 17.
Manufacture of Artificial Whale Bone. H. H. Lake. 1,067. January 17
Smokeless Powder. Max Von Förster. 1 074. January 17.
Method, and Apparatus for Heating and Cooling Liquids, and Depositing Sedimentary Matters therefrom. W. Lawrence. 1 078. January 17.
Improved Sewage Filter. E. C. Ives and J. Woollatt. 1,086. January 18.
Manufacture of Washing Soap, etc. A Warwick, J. Smith, and P. W. Nicolle. 1,088. January 18.
Manufac ure of Rods, Bars, or Tubes from various Copper Alloys. G A. Dick. 1 090. January 18
Presses for Forming Wood Pulp into Hollow Cylinders. R. H. Brunton 1,129. January 18.
Improved Filtering Plant for Purifying Water, etc. E. G Martin and M J. M'Mullin. 1,135. January 18.
Purifying Water, etc., and Eliminating Soluble Salts. J. E. Carroll. 1,136 January 18.
Manufacture of Artificial Marble. H H. Lake 1,157 January 18.
An Improved Mineral Oil. S C Hitchcock. 1,188 January 19.
Improved Method and Apparatus for Concentrating Sulphuric Acid, etc. E. T. Hughes 1,207 January 19
Manufacture of Metallic Zinc. W. S. Squire and L. R. L. Squire. 1 212. January 19.
Hydro-Carbon Burners. F B. Hill and R D Brett. 1 231. January 19.
Hydro-Carbon Burners. C R. Nyberg 1,233 January 19.
Scouring Wool and Recovering Grease, Potash Salts, etc. D Dreghorn and J Harvey 1,267 January 20
Ventilating, Humidifying, Air-Warming and Cooling Apparatus. J A Hart 1,272 January 20.
Manufacture of Soap. F. R. Donisthorpe. 1,296 January 20
Improved Induced Draught Apparatus. T Henderson. 1,299. January 20.
Reducing, Dephosphorising, and Desulphurising Ores, Slabs, etc J. B Alzugaray 1,311. January 22.

IMPORTS OF CHEMICAL PRODUCTS
AT
THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending January 20th.

Acetate of Lime—
U. States, 153 pkgs. Lister & Biggs

Acetic Acid—
Holland, 103 pkgs A. & M. Zimmermann

Acetone—
Holland, 3 pkgs. T. Palmer
" 12 A. & M. Zimmermann

Acid Phosphate—
U. States, 100 pkgs. Seaward Brs.

Alkali—
Germany, 11 pkgs. L & I. D Jt Co.
France, 202 c. P. Hecker & Co.
" 118 Arnati & Harrison

Alum—
Holland, 157 pkgs. Ohlenschlager Brs.
Belgium, 23 R. W. Greeff & Co.

Anthracene—
Holland, 289 pkgs. Burt, Boulton, & Co.

Antimony Ore—
Germany, 1 t. H R Merton & Co.
Sydney, 28 H. Bath & Son
France, 100 Smith, Sundius, & Co.
Germany, 14 H. Lambert
" 1 T. H. Lee
Sydney, 62 Vivian, Younger, & Co.
Melbourne, 2 W. Briscoe & Son
Singapore, 79 Pillow, Jones, & Co.

Arsenic—
Germany, 29 pkgs. Petri Brs.

Asbestos—
Italy, £210 W. Byford
Belgium, 25 T. Palmer
Italy, 40 B & N. Whvs Co.
U States, 400 Furness, Withy, & Co.
Canada, 415 W. Byford
Italy, 240 Mory & Co.
France, 24 "
" 90 Bell's Asbestos Co.

Barium Chloride—
Germany, 200 pkgs Cotton Powder Co.
Holland, 22 Petri Brs.

Barytes—
Belgium, 40 cks. J. L. Lyon & Co.
" 22 51 pkgs. W. Harrison & Co.
Holland, 20 Magee, Taylor, & Co.
Germany, 53 Burrell & Co.
Belgium, 20 S H. Willoughby
" 50 bgs H A Litchfield & Co.
Germany, 57 cks D. Storer & Sons
" 23 W. Harrison & Co.

Bromine and Bromide of Iron—
Germany, 45 pkgs. A. & M Zimmermann

Caoutchouc—
P. E. Africa, 33 c. Prop. Bull Wf.
Cartagena, 35 "
Ecuador, 14 "
C. America, 30 "
" 21 R. G. Hall & Co.
" 90 Price, Hickman, & Co.
Portugal, 20 L. & I. D. Jt Co.
U. States, 17 "
Zanzibar, 376 "
Germany, 13 "
" 304 Procter Brs.
Madagascar, 1,131 c. "
E. Indies, 96 Huttenbach & Co
France, 31 H. Johnson & Sons
Peru, 10 F. Huth & Co.

Castor Oil—
Belgium, 10 brls. Fuerst Bros.
Italy, 60 cs. A. F. White & Co.
" 10 Beresford & Co.
Belgium, 12 "

Caustic Potash—
Belgium, 100 c. Petri Brs.
France, 47 Gellatly, Hankey, & Co.
Germany, 1 Domeier & Co.

Chemicals *(otherwise undescribed)*
Germany, 73 pkgs. T. H. Lee
" 43 A. & M. Zimmermann
" 10 cks. Phillipps & Graves
Holland, 12 T. H. Lee

Chlorate—
France, 135 pkgs. Fuerst Brs
" 100 A Hughes

Cream of Tartar—
U States, 32 pkgs. B. & F. Wf. Co., Ltd
France, 2 "
" 5 F. C. Devon & Co.
" 4 G. Ward & Sons
" 200 Maconochie Brs
" 1 J L. Lyon & Co.
" 42 Domeier & Co.
" 5 C. F. Gerhardt
Holland, 80 Kirkpatrick & Co.
Spain, 9 W. C. Bacon & Co.
Italy, 20 Howards & Sons

Dextrine—
Germany, 300 pkgs. W. Balchin
" 100 Hernu, Peron, & Co.
" 22 Phillipps & Graves

Dyestuffs—
Annatto
E. Indies, 19 pkgs R. Von Glehn & Sons
Argols
Italy, 91 pkgs. Thames S. T. & L. Co, Ltd.
Cochineal
Canaries, 14 pkgs. Kuhner, Henderson & Co.
" 7 Johnson, Hicks, & Co.
" 5 Swanston & Co
" 12 W. M. Smith & Sons
" 11 Sperling & Williams
" 10 G. S. Bruce
" 50 W. H. Cole & Co.
Extracts
Denmark, 1 pkge Tegner, Price, & Co
Norway, 3 W. E. Bott & Co.
Germany, 13 cks. T. H. Lee
France, 51 Union L. Co., Ltd.
" 36 Carey & Sons
" 100 L. J. Levinstein & Sons
Denmark, 1 Sorensen & Co.
" 90 Bailey & Leetham
Belgium, 100 T. H. Lee
Gambier
E. Indies, 331 pkgs. Beresford & Co.
" 218 R. & J. Henderson
Indigo
E Indies, 247 chts L. & I. D. Jt Co
" 20 Ross & Deering
" 10 H J. Perlbach & Co
" 91 Elkan & Co.
" 41 Arbuthnot, Latham, & Co.
" 28 Darling Brs
" 18 F. Huth & Co.
" 10 E. Bower & Co.
" 49 T. Barlow & Bros
" 34 J. Kenyon & Sons
" 55 Parsons & Keith
" 66 Patry & Pasteur
" 2 Anderson Brs.
" 43 Ernsthausen & Co.
" 77 P. & O. Co.
" 6 G. Steinthal & Co.
Greytown, 4 Rosing Brs.
" 10 Lewis & Peat
" 11 Cotesworth & Powell
Logwood
Trinidad, 12 t Gillespie Brs. & Co
Madder
S. Russia, 11 pkgs. F. W. Bowyer & Co.
Myrabolams
E Indies, 1,364 pkgs. Hoare, Wilson, & Co.
Orchella
France, 37 pkgs. Prop. Bull Wf.
Sumac
Italy, 200 pkgs. H Johnson & Sons
Tanner's Bark
Adelaide, 10 t. Baxter & Hoare
Natal, 11 A. & W. Nesbitt
Melbourne, 8 J. Potter & Co.
Turmeric
Hong Kong, 150 pkgs. Prop. Sun Wf.
Valonia
A. Turkey, 100 t. Anning & Cobb
" 50 S Barlow & Bro, Ltd.
A Turkey 6 t. Boutcher, Mortimore, & Co.
" 144 M. D. Co.
" 102 T J. & T. Powell
" 72 Adam Brs.

Farina—
Germany, 100 pkgs. J Barber & Co.

French Chalk—
Italy, £225 Magee, Taylor, & Co.

Glucose—
Germany, 6 pkgs. 36 c. Beresford & Co
" 47 375 J. Knill & Co
" 20 20 J. Barber & Co.
U. States, 1,150 1,150 "
" 165 938 Prop Scott's Wf.
" 249 350 L. & I. D. Jt. Co.
" 5 28 Linton, Hubbard, & Co.
" 300 1,300 L. Norman & Co., Ltd.
" 1,550 1,550 Barrett, Tagant, & Co.
" 335 515 L. Sutro & Co. Ltd.
" 450 2,250 J. Lucey & Sons
" 250 250 Stein Brs.
" 1,000 1,000 P. Windmuller Mack, & Co.
" 500 500 Devitt & Hett
" 500 500 B. & N. Whvs. Co.
" 1,083 1,083 Pearce, Pelley & Co.
" 500 500 Humphrey & Co
France, 300 300 L. Norman & Sons

Iodine—
Germany, 190 pkgs A. Gibbs & Sons

Manganese Ore—
Russia, 10 t. Julius & Co.

Manure—
E. Indies, 100 t. F. J. Cornwell & Co.
Germany, 50 Lawes Chemical Manure Co.
" 50 Perkins & Homer

Methyl Alcohol—
Holland, 19 dms. Stein Bros.
Belgium, 8 Lister & Biggs

Mica—
E. Indies, £745 W. M. Smith & Sons

Naphtha—
U. States, 10 brls. Allan Brs., & Co.

Nitrate—
Holland, 8 pkgs. Phillipps & Graves

Ochre—
U States, 25 brls. Magee, Taylor, & Co.
Holland, 5 cks. Phillipps & Graves
France, 142 W. Harrison & Co.
" 4 J. L. Lyon & Co.
" 70 Blundell, Spence & Co.

Paraffin Wax—
U. States, 260 brls. H. Hill & Sons
" 3,305 pkgs. J. H. Usmar & Co.
" 321 brls. G. H. Frank

Phosphate Rock—
Holland, 240 t. Anglo-Contl. G. Wks.
Coosaw, 2,430 Lawes' Manure Co.
Belgium, 100 Leach & Co.
France, 190 A. Hunter & Co.

Plumbago—
Holland, 111 cks. B. Gallaway
Ceylon, 159 brls. Prop. Sun Wf.
" 201 R. G. Hall & Co.
" 167 J. Thredder, Son, & Co.

Potash—
France, 64 c. Petri Brs.

Potassium Carbonate—
France, 5 c. J. A. Reid
Holland, 300 Spies Brs. & Co.

Potassium Chloride—
Germany, 100 pkgs. Anderson, Weber, & Smith

Potassium Oxalate—
Belgium, 10 pkgs. F. Boehm
" 10 Leach & Co

Potassium Permanganate—
Germany 21 pkgs. F. Boehm

Potassium Sulphate—
France 21 pkgs Mead, Son, & Co.

Pumice Stone—
Italy, 4 t. Stobbs, Wilson, & Co.

Pyrites—
Spain, 2,047 t. C. Tennant, Sons, & Co.
" 1,1 0 C. S. Vasey & Co.

Quicksilver—
Italy, 10 flks. H. Bath & Son

Salacetos—
Belgium, 15 pkgs F. Boehm

Saltpetre—
Germany, 80 kgs. 200 bgs. P. Hecker & Co.
" 6 cks. Brown & Elmslie

Salts of Sorrell—
Belgium, 15 pkgs. Leach & Co.

Sodium Bichromate—
Holland, 50 pkgs. C. Tennant, Sons, & Co.

Starch—
Germany, 3,838 pkgs. Horne & Co.
" 200 R. Warner & Co., Ltd.
" 143 Prop. Scott's Wf.
" 300 Seaward Brs
" 80 Phillipps & Graves
Holland, 899 Little & Johnstone
" 80 Phillipps & Graves
Belgium, 340 T. H Lee
" 40 J. Barber & Co.
" 30 Barrett, Tagant, & Co.
France, 6 Dutrulle, Solomons, & Co.
Austria, 250 M. D. Co.

Stearine—
U. States, 50 bgs. W. Balchin
France, 80 Valbaum & Tosetti

Sulphur—
Belgium, 5 t. C. J. Capes & Co.
Italy, 12 H. S Smith & Co.

Tallow and Stearine—
U. States, 120 cks Allan Bros., & Co.

Tartaric Acid—
Holland, 48 pkgs. Kirkpatrick & Co
" 20 Domeier & Co.

Turpentine—
N. Russia, 52 brls. F. & S. Chiesman & Co.
France, 15 cks. T. Trapp & Sons

Ultramarine—
France, 3 cs. Arnati & Harrison
Belgium, 5 pkgs. W. Harrison & Co.
" 5 cks. Leach & Co.
Holland, 6 cs. Haeffner, Hilpert, & Co.

Varnish—
U. States, 76 pkgs Magee, Taylor, & Co
" 20 Beck & Pollitzer
France, 4 Flageollet & Co.
—— £252 Staynes & Smith
Belgium, 3 pkgs. J. & T. Seddon
" 6 Stobbs, Wilson, & Co.

Vermilion—
Hong Kong, 10 cs. W. M. Smith & Sons

White Lead—
France, 18 cks. J. Watt & Sons
Holland, 15 Spies Brs., & C.

Zinc Oxide—
U. States, 100 brls. M. Ashby, Ltd.
Holland, 125 "
" 405 cks. Soundy & Sons
" 10 pkgs. Prprs. Dowgate Dk.
U. States, 1 cs. Davies, Turner, & Co.

Zinc Sulphate—
Germany, 31 pkgs. F. Smith

LIVERPOOL.

Week ending January 18th.

Acetic Acid—
Hamburg, 2 brls.

Aluminium—
New York, 10 cs. Pickford & Co.

Aluminium Hydrate—
Rotterdam, 9 cks.

Ammonium Chloride—
Marseilles, 17 brls.

Antimony Ore—
Antofagasta, 740 sks. A. Gibbs, Son, & Co.
Mollendo, 150 Braillard fils

Barytes—
Antwerp, 30 cks.
Rotterdam, 42

Bone Meal—
Bombay, 300 bgs.

Boracite—
Panderma, 205 t. Roberts & Evans

Borate of Lime—
Hamburg, 366 bgs

Butyric Acid—
Hamburg, 2 cs.

Castor Oil—
Marseilles, 9 cks. J. J. Mack & Son
" 84 73 brls.
Antwerp, 85

Colours—
Hamburg, 3 cs.

Copper Sulphate—
Baltimore, 97 brls.

Cottonseed Oil—
New York, 127 brls.

Dyestuffs—
Cochineal
Gr. Canary, 18 bgs. Widow Duranty & Son
Cutch
Rangoon, 578 bxs.
Divi Divi
Hamburg, 40 bgs.
Extracts
Marseilles, 20 cks. J. Burdon
Bordeaux, 100
Fustic
N. Orleans, 6 stks.
Savanilla, 2,643 lgs. G. H. Muller & Co.
Indigo
Calcutta, 87 chts.
Bombay, 10 cs.
Orchella
Lisbon, 12 bgs. Edwards Brs.
" 19 bls.
Saffron
Valencia, 1 cs
Valonia
Hamburg, 316 bgs.

Glucose—
New York, 197 brls.
Philadelphia, 100
Hamburg, 47 cks.

Gypsum—
Bremen, 140 bgs

Linseed Oil—
Rotterdam, 150 brls

Naphtha—
Philadelphia, 5,704 brls.

Nickel Oxide—
Antwerp, 69 brls.

Paint—
Boston, 20 cs
Valencia, 9 dms

Paraffin Scale—
Philadelphia, 100 brls.

Paraffin Wax—
Rangoon, 823 bxs.

Phosphate—
Ghent, 1,000 bgs.
Antwerp, 2,000 J. T. Fletcher & Co.

Pitch—
Marseilles, 55 brls.
Hamburg, 58 cks.

Potash—
Antwerp, 20 dms.

Pyrites—
Huelva, 1,208 t. Matheson & Co.

Rosin—
Savannah, 2,853 bbl

Salt—
Curacao, 750 bgs. J. H. Brough & Co.

Soap—
New York, 1 cs.
Philadelphia, 600 38 crts.

Starch—
Antwerp, 20
Philadelphia, 200 bgs.
Hamburg, 400
Rotterdam, 160

Stearine—
New York, 10 hds.
Antwerp, 157 bgs. 1 cs.

Tallow—
Philadelphia, 250 tcs.

Tartar—
Bordeaux, 5 cks.

Tartaric Acid—
Rotterdam, 2 cs. Sachse & Klemm
" 4 cks.

Turpentine—
Savannah, 50 brls.

Varnish—
New York, 10 cs. Larrinaga & Co.

Verdigris—
Marseilles, 10 brls.

White Lead—
Rotterdam, 34 cks.
Antwerp, 12

Zinc Ashes—
Marseilles, 12 brls.

Zinc Oxide—
Antwerp, 165 brls.

HULL.

Week ending January 20th.

Acid—
Bari, 39 cks. 22 cs. Wilson, Sons, & Co., Ld.

Alum—
Rotterdam, 21 cks. Hutchinson & Son

Barytes—
Riga, 110 cks. Wilson, Sons, & Co., Ltd.
Antwerp, 130 bgs. Bailey & Leetham
" 66

Cellulose—
Trieste, 200 bls. Wilson, Sons, & Co., Ltd.

Chemicals *(otherwise undescribed)*
Antwerp, 90 pks. 30 cks. Wilson, Sons, & Co, Ltd.
Flushing, 15 cs. Hutchinson & Son
Stettin, 2 cks. Wilson, Sons, & Co., Ltd.
Hamburg, 16 "
Bremen, 1 Veltmann & Co.
Danzig, 10
Dunkirk, 91 pks. Wilson, Sons, & Co., Ld.

Colours—
Flushing, 23 pks. G. Lawson & Sons
" 52 cs. 27 cks. Hutchinson & Son
Rotterdam, 10 "
" 3 7 101 pks. W. & C. L. Ringrose
" 17 G. Lawson & Sons
" 8
Danzig, 12 Wilson, Sons, & Co., Ld.
" 41
Antwerp, 8 Wilson, Sons, & Co., Ld.

Cottonseed Oil—
New York, 450 brls. Wilson, Sons, & Co., Ld.

Cryolite—
Copenhagen, 2 cks. Wilson, Sons, & Co., Ltd.

Dextrine—
Stettin, 300 bgs. Wilson, Sons, & Co., Ltd
" 50

Dyestuffs—
Alizarine
Flushing, 1 ck. Hutchinson & Son
Madder
Rotterdam, 9 cks W. & C. L. Ringrose
Shumac
Trieste, 30 bls. Wilson, Sons, & Co., Ld.
Palermo, 1,200 bgs. "
" 559

Farina—
Stettin, 700 bgs. Wilson, Sons, & Co, Ltd.
" 600
Ghent, 200 bxs. "

Glucose—
New York, 100 brls. Wilson Sons, & Co., Ltd.
Rotterdam, 50 bgs. Hutchinson & Son

Guano—
Kroksholm, 126 t. Hart Brs.

Manure—
Kroksholm, 20 bgs. Hart Brs.

Ochre—
Rouen, 30 cks. T. F. Hewitt & Co.

Phosphate—
Ghent, 812 bgs. 101 t.

Potash—
Rotterdam, 1 ck. G. Lawson & Sons

Pyrites—
Huelva, 1,532 t.

Saltpetre—
Hamburg, 10 kgs. Wilson, Sons, & Co., Ld.

Soap—
Bari, 104 cs.

Starch—
Bremen, 2,534 cs Veltmann & Co.
Antwerp, 4 Wilson, Sons, & Co., Ltd.

Stearine—
Rotterdam, 25 bls. Wilson, Sons, & Co., Ltd.
Antwerp, 20 pks "

Sulphur—
Catania, 501 t. 1,573 pks. Wilson, Sons, & Co, Ld.
" 528

Tallow—
Dunkirk, 1 brl. Wilson, Sons, & Co., Ld.

Tartar—
Bordeaux, 2 cks. Rawson & Robinson
" 4

Tartaric Acid—
Rotterdam, 6 cks. G. Lawson & Sons

Tar Waste—
Rotterdam, 8 cks. G. Lawson & Sons

Tin Oxide—
Rotterdam, 14 cks. G Lawson & Sons

Turpentine—
Bordeaux, 3 cks. Rawson & Robinson
Libau, 52

Varnish—
New York, 42 pks. Wilson, Sons, & Co., Ld.
" 16 brls.

Waste Salt—
Hamburg, 50 t.

White Lead—
Rotterdam, 7 cks. Gibson Brs.
Antwerp, 36 Bailey & Leetham

Zinc Oxide—
Antwerp, 50 cks. Bailey & Leetham

GLASGOW.

Week ending January 25th.

Ammonia (Liquid)—
Antwerp, 4 dms.

Arachide Oil—
Rotterdam, 4 cks. J. Rankine & Son

Barium Sulphate—
Antwerp, 44 cks. 50 bgs.

Castor Oil—
Antwerp, 57 cks.
Marseilles, 6

Chemicals *(otherwise undescribed)*
Hamburg, 1 cs.
Rotterdam, 9 cks 3 bxs. J. Rankine & Son
Christiania, 1

Chromium Sulphate
Rotterdam 1 ck. J. Rankine & Son

Colours—
Hamburg, 6 cks. 4 cs.
Rotterdam, 43 13 bxs. J. Rankine & Son
" 23 pkgs.

Cream of Tartar—
Marseilles, 142 cks.

Dyestuffs—
Alizarine
Rotterdam, 1 bx. 12 brls. J. Rankine & Son
" 46 pkgs.
Cutch
Rangoon, 1,510 bxs. Milne & Co.
" 500 cs.
Extracts
Bordeaux, 20 cks.
Rouen, 21 cs.
Logwood
Belize, 63 t. 3 c. Allison, Cousland, & Co.
Madder
Marseilles, 10 cks.

Ochre—
Marseilles, 26 cks.
Rouen, 10

Paraffin Scale—
Rangoon, 165 cs. Young's Paraffin Co.
" 82 Oakbank Oil Co.
" 660 Wm. Walls & Co.

Paraffin Wax—
Rangoon, 83 cs. P. Henderson & Co.

Potassium Permanganate—
Hamburg, 19 kgs.

Rosin—
Savannah, 2,620 brls. W. N. Gemmell & Co.

Silica—
Hamburg, 200 bgs.

Soap—
Marseilles, 32 cs.

Starch—
Antwerp, 50 bgs. 40 cs.

Stearine—
Bordeaux, 27 cks.

Tartar—
Bordeaux, 10 cks.

Zinc Ashes—
Bordeaux, 176 pkgs. 21 cks.

MANCHESTER.

Week ending January 20th.

Castor Oil—
Antwerp, 56 brls.

Chloride—
Rotterdam, 6 cks.

Colours—
Rotterdam, 9 cks.
Treport, 4 1 cs.

Dyestuffs—
Extracts
Treport, 5 cks.
Logwood
Laguna de Ferminos, 350 t. E. Brownbill & Co.

Farina—
Rotterdam, 500 bgs.

Litharge—
Rotterdam, 2 cks.

Nitrate—
Rotterdam, 11 cks.

Potash
Rouen, 27 cks.
Treport, 2 "

Soap—
Rotterdam, 1 cs.

Starch—
Rotterdam, 50 cs

Tartaric Acid—
Rotterdam, 56 cks

Zinc Ashes—
Antwerp, 16 cks.

TYNE.

Week ending January 20th.

Alum Earth—
Hamburg, 97 cks Tyne S. S. Co.

Antimony Ore—
Hamburg, 1 bg. Tyne S. S. Co.

Barytes—
Antwerp, 68 cks. Tyne S. S. Co.
Castor Oil—
Antwerp, 28 brls. Tyne S. S. Co.
Colours—
Antwerp, 4 cks Tyne S. S. Co.
Hamburg, 1 cs. "
Limestone –
Antwerp, 2 cs 4 crts. 1 frm. Tyne S. S. Co.
Paint—
Hamburg, 20 brls. Tyne S. S. Co.
Phosphate –
Antwerp, 200
Pyrites—
Huelva, 4,054 t
Saltpetre—
Hamburg, 3 cks. Tyne S. S. Co.
Size—
Antwerp, 2 cs. Tyne S. S. Co.

Starch—
Antwerp, 9 cs Tyne S. S. Co.
Stearine—
Antwerp, 13 bgs. Tyne S. S. Co.
New York, 25 hhds.
Tallow—
New York, 90 hhds.
Varnish—
Antwerp 5 brls. Tyne S. S. Co
White Lead—
Antwerp, 18 brls. Tyne S. S. Co
Zinc Oxide –
Antwerp, 5 brls. Tyne S. S. Co.

GOOLE.

Week ending January 17th.

Alkali—
Hamburg, 21 cks.
Calais, 15
Antimony—
Boulogne, 4 cks.

Caoutchouc—
Boulogne, 5 cks
Dyestuffs—
Alizarine
Rotterdam, 365 pkgs.
Logwood
Jamaica, 1,185 t.
Dyestuffs (*otherwise undescribed*)
Boulogne, 17 cks 2 cs. 16 pkgs.
Farina—
Hamburg, 200 bgs.
Glucose –
Dunkirk, 300 bgs.
Potash—
Hamburg, 15 cks.
Dunkirk, 2
Calais, 40 dms.
Rosin—
Brunswick, 3,080 cks.
Saltpetre—
Rotterdam, 100 bgs.

Sodium Nitrate—
Rotterdam, 1 cs.
Sulphur Ore—
Seville, 725 t.
Waste Salt –
Hamburg, 778 cks.
Zinc Oxide—
Antwerp, 25 brls.

GRIMSBY.

Week ending January 20th.

Chemicals (*otherwise undescribed*)
Hamburg, 1 ck.
Dyestuffs (*otherwise undescribed*)
Dieppe, 25 cks.
Farina—
Hamburg, 70 bgs.
Zinc Ashes—
Antwerp, 10 cks.

EXPORTS OF CHEMICAL PRODUCTS
OF
THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending January 24th.

Alkali—
Natal, 12 c. £6
Shanghai, 1 t 7 4
Alum—
Brisbane, 1 t. £7
Aluminous Cake—
Calcutta, 37 t. 1 c. £135
Ammonia (Liquid)—
Bombay, 12 cs. £12
Ammonium Carbonate—
Mauritius, 2 c. £5
Algoa Bay, 4 cs. 10
Dunkirk, 5 t. 18 190
Hiogo. 1 32
Cape Town, 5 10
Ammonium Chloride—
Melbourne, 2 t. 2 c. £51
Constantinople, 2 10 88
Ghent, 3 cks. 23
Ammonium Sulphate—
Genoa, 20 t. 4 c. £272
Ghent, 63 10 850
Hamburg, 200 2,700
Rerbice, 50 6 700
Arsenic—
Napier, 1 t. £17
Lyttelton, 15 c. 14
Barium Binoxide—
Paris, 5 t 3 c £191
Baryta—
Kurrachee, 4 cs. £10
Bisulphite of Lime—
Brisbane, 1 t. 17 c. £8
Bleaching Powder—
Algoa Bay, 2 t. £19
Borax—
E. London, 25 kgs. £34
Brisbane, 1 t. 2 c. 37
Aarhuus, 2 1 105
Veile, 19 50
Wellington, 10 15
Auckland, 15 15
Madras, 3 14
Carbolic Acid—
Yokohama, 2 t. £98
Cape Town, 5 c. 11
Penang, 36 dms. 14
Mauritius, 8 10
Bombay, 1 cs. 7
Hong Kong, 11 19
Rotterdam, 4 14 80 cks. 553
Carbon Bisulphide—
M. Video, 1 t. 2 c. £16
N. Orleans, 2 12 40
Caustic Soda—
Algoa Bay, 2 t. 1 c. £66
Hong Kong, 2 10 48
Nelson, 3 3 40
E. London, 2 27
Newcastle, 1 15 18
Natal, 7 14
Melbourne, 2 11 127
Chemicals (*otherwise undescribed*)
Algoa Bay, 2 cks 8 cs. 4 pkgs. £84
Cape Town, 6 10
Paris, 22 55
Bombay, 14 c. 6 124
Duisberg, 6 t. 160
Adelaide, 30 cs. 33
E. London, 3 18
Chloride of Lime—
Shanghai. 4 cks. £21
Citric Acid—
Brussels, 5 c. £40
Libau, 10 74
Hamburg, 15 112
Copenhagen, 5 38
Batoum, 5 40
Christiania, 5 35
Calcutta, 1 6
Rotterdam, 3 kgs. 23
Amsterdam, 1 ck. 8
Coal Products—
Aniline Oil
Genoa, 10 dms. £320
Anthracene
Rotterdam, 70 cks. £672
Benzol
Terneuzen, 33 dms. £280
Boulogne, 20 cks. 260
Rotterdam, 21 260
Coal Tar Dyes
Boston, 2 pkgs. £12
Creosote
Calais, 30 cks. £77
Creosote Oil
Treport, 12 brls £31
Pitch
Terneuzen, 170 t. £220
Boston, 600 brls 275
Dunkirk, 620 920
Marseilles. 1 495 2,701
Saigon, 1,160 2,174
Gijon, 160 228
Tar
N. Orleans, 3,000 cks. £1,800
Rouen, 54 brls. 50
Brisbane, 50 pkgs. 10
Boston, 350 180
E. London, 50 dms. 5
Saigon, 230 112
Toluol
Rotterdam, 40 puns. 50 runs. £600
Coal Products (*otherwise unnes.*)
Newcastle, 50 dms. £12
Copperas—
Bagdad, 5 t. 7 c. £12
Copper Sulphate—
Leghorn, 33 t. 16 c. £520
Melbourne, 5 80
Genoa, 2 14 45
Naples, 1 13 25
Seville, 6 6
N. Orleans, 10 1 153
Trieste, 5 2 72
Odessa, 10 4 144
Treport, 5 1 84
Lisbon, 50 756
Danzig, 10 1 150
Oporto, 5 10 84
Cream of Tartar—
Wellington, 8 c. £34
Auckland, 10 41
Launceston, 1 t. 72
Melbourne, 5 1 339
Sydney, 5 20
Canterbury, 15 54

Disinfectants—
Sydney, 150 dms. £44
Calcutta, 100 80 pkgs. 61
Bombay, 75 19
Cape Town, 68 1 c. 63
Brisbane, 20 cks 5
Penang, 1 t. 5 13
New York, 1 brl. 6
Colombo, 1 10
Adelaide, 4 cs 2 19
Amoy, 15 13
Trinidad, 12 pkgs. 17 45
Auckland, 2 12
Hong Kong, 20 18
Dried Blood –
Treport 2 t. 1 c. £200
Flowers of Sulphur—
M. Video, 2 t. £16
Brisbane, 20 cks. 14
Hypophosphites—
New York, 14 c. £261
Montreal, 1 cs. 15
Iron Sulphate –
Oporto 10 t. £12
Manure—
Martinique, 107 t. 19 c. £360
Genoa, 136 10 561
Cape Town, 18 32
Malaga, 10 90
Bordeaux, 49 16 600
Bundaberg, 13 10 240
Venice, 98 10 273
Treport, 39 17 240
Penang, 212 1,696
Jersey 120 941
Antwerp, 20 10 75
Grenada, 38 6 17
Nitric Acid—
Jersey, 5 cbys £8
Algoa Bay, 12 cs. 25
E. London, 3 7
Oxalic Acid—
Yokohama, 1 t. £34
Melbourne, 1 1 c. 29
Phosphoric Acid
Boulogne, 1 ck. £10
Phosphorus—
Wellington, 5 cs. £53
Potash—
Wellington, 5 c. £7
St. Kitts, 1 t. 69
Potash Crystals—
San Francisco, 6 c. £43
New York, 4 cs. 117
Toronto, 1 12
Potassium Bicarbonate—
Yokohama, 1 t. £30
Potassium Bisulphite—
Sydney, 1 t. £31
Potassium Chlorate—
Lisbon, 5 c. £17
Madras, 5 cks 31
Hong Kong, 2 8
Potassium Cyanide—
Townsville, 3 c. £15
Shanghai, 2 cks. £13
Potassium Nitrate—
Brisbane, 1 t. £22

Pyrogallic Acid–
Brisbane, 2 cs. £9
Saltpetre—
Yokohama, 1 t. £23
Bahia, 5 19 c. 163
Rio, 9 16 230
Algoa Bay, 12 13
Auckland, 10 11
St Michaels, 7 8
Natal, 9 10
Launceston, 1 23
Oporto, 8 17 181
Sheep Dip –
E. London, 2,375 drs. £439
Algoa Bay, 1 t. 4 c. 48
Calcutta, 60 dms. 36
Wellington, 20 cs. 52
Soda—
Algoa Bay, 17 c. £13
Soda Ash—
Auckland, 10 t. £48
Soda Crystals—
Newcastle, 39 t. £107
Sodium Bicarbonate—
Brisbane, 3 t. £23
Auckland, 1 3 c. 8
Singapore, 3 6
Penang, 3 6
Sodium Carbonate—
Madras, 3 c. £6
Sodium Sulphate—
Ghent, 75 t. £112
Sodium Sulphite—
Cape Town, 3 c. £18
Sodium Tartrate—
Adelaide, 11 c. 31
Strontia—
Kurrachee, 4 cs. £13
Strontium Carbonate—
New York, 3 c £21
Sulphur—
Natal, 9 c. £5
Barbadoes, 3 t 21
Sulphuric Acid –
Cape Town, 2 t. 4 c. £16
Natal, 20 cs. 37
Penang. 1 5 13
Limassol, 8 12
Superphosphate—
Bordeaux, 34 t. 11 c. £105
Tartaric Acid—
Wellington, 5 c. £29
Auckland, 10 48
Constantinople, 10 50
Sydney, 5 27
Melbourne, 2 t. 5 214
Adelaide, 10 48
Tartaric Acid and Citric Acid—
Rangoon, 2 cs. £13
Tin Crystals—
Barbadoes, 1 t. £76

LIVERPOOL.

Week ending January 24th.

Acetic Acid—
M. Video, 1 t. 1 c. 3 q. £21
Lisbon, 2 21

Alum—
Varna, 8 t. 4 c. £52
Bourgas, 8 18 70
Calcutta, 29 15 172
Lisbon, 7 3 q. 5
Beyrout, 12 15 78
Penang, 5 15 34
Constantinople, 2 14 3 13

Ammonium Carbonate—
Rotterdam, 5 c. £8

Ammonium Chloride—
Catacolo, 1 t. 1 c. £35

Ammonium Sulphate—
Nantes, 25 t. £377
Las Palmas, 22 1 304
Huelva, 1 1 1 q. 15
Demerara, 190 18 2,661
La Pallice, 20 7 1 275
Boston, 5 6 3 72
Honolulu, 62 7 1 843
Valencia, 44 12 2 602
Samarang, 51 2 1 700
Ghent, 48 11 2 680
Pasages, 10 2 2 140
Rotterdam, 49 17 652
Gr. Canary, 5 4 3 69

Antimony—
Santiago de Cuba, 1 ck.

Asbestos—
Pernambuco, 2 bls.

Bleaching Powder—
Boston, 448 cks.
Ghent, 130
Havre, 25
New York, 271 20 bxs.
San Sebastian, 103
Newport News, 163

Boracic Acid—
Antwerp, 2 t. 17 c. 3 q. £81
Alexandria, 1 1 3 43
Toronto, 2 3 5
Montreal, 11 1 22
Calcutta, 6 12

Borax—
Mexico City, 5 c. 1 q. £8
Hamburg, 1 t. 1 35
Amsterdam, 2 2 63
Antwerp, 1 30

Calcined Magnesia—
Valparaiso, 4 cs.
M. Video, 1

Calcium Chloride—
Boston, 23 t. 14 c. £48

Carbolic Acid—
Mexico City, 1 c. £4
Dunkirk, 14 t. 10 842
Ceara, 3 q. 7
Marseilles, 18 19 1,000
Hamburg, 2 8 135
Genoa, 19 3 53

Caustic Potash—
Newport News, 1 t. 1 c. £28

Caustic Soda—
Adelaide, 36 dms.
Alicante, 30
Bahia, 80
Brisbane, 35
Ceara, 70
Chicago, 120
Havre, 35
Hiogo, 250
Lisbon, 39
Maceio, 2
Malta, 4
Melbourne, 241 3 bxs 8 pkgs.
M. Video, 50
Nantes, 35
N. Orleans, 50
New York, 546 165 brls. 20 cks.
Odessa, 50
Paraiba, 15
Pernambuco, 150
St. John's, Nfd., 35
Samarang, 150
San Francisco, 450
San Sebastian, 100
Seville, 542 96
Sydney, 51
Talcahuano, 30
Yokohama, 80
Algoa Bay, 10
Barcelona, 200
Batavia, 10
Boston, 50
B. Ayres, 100
Calcutta, 20
Cartagena, N.G. 10
Catania, 114
Cienfuegos, 15
E London, 20
Fiume, 45
Hamburg, 3 6
La Guayra, 10
Manila, 150
Maracaibo, 10
Maranham, 10
Matanzas, 50
Naples, 103
Singapore, 25
Tarragona, 30

Chemicals (*otherwise undescribed*)
Trebizonde, 17 c. £31
Mersyne, 10 17
Genoa, 2 t. 5 80
Odessa, 5 8 2 q. 150

China Clay—
Bombay, 105 t. 15 c.
Philadelphia, 21 15
Boston, 246 2
Piræus, 15 4
Rio de Janeiro, 6

Coal Products—
Aniline Colours
Constantinople, 12 cs.
Malta, 6
Rangoon, 75
Aniline Dyes
Hong Kong, 100 bxs.
Pitch
Port de Bouc, 469 t.
Venice, 905
Tar
Sierra Leone, 10 kgs.

Copperas—
Alexandria, 9 t 1 c. £14
Syra, 6 1 2 q. 12

Copper Sulphate—
Seville, 1 t. 11 c. £24
Oporto, 11 11 168
Naples, 12 16 2 q. 186
Leghorn, 5 3 73
Lisbon, 35 17 2 523
Genoa, 20 300
Piræus, 2 1 2 31
Mersyne, 8 3 7
B. Ayres, 1 9 2 23
Trieste, 10 154
Ancona, 1 10 1 21
Brindisi, 6 13 2 78
Bordeaux, 110 6 1,575

Iron Oxide—
B. Ayres, 3 t. 10 c. £55

Lime—
Accra, 5 t. £5
Quittah, 3 17 c. 9
Antigua, 2 3

Litharge—
Oporto, 4 cks.

Magnesium Carbonate—
Lisbon, 14 c. 2 q. £17
Rosario, 2 cs.

Magnesium Sulphate—
Rio de Janeiro, 200 kgs.

Manure—
Rochefort, 600 t. 1 c. 3q. £1,865
Bordeaux, 450 1 2 1,332
Penang, 212 10 1,806
Las Palmas, 4 1 39

Metallic Sodium—
Rotterdam, 4 t. 13 c. £985

Nitric Acid—
Rio Grande, 1 c. 1 q. £3

Ochre—
Para, 30 kgs.

Oxalic Acid—
Trinidad, 8 t 12 c. 2 q. £220

Paint—
E. London, 4 dms.
Havana, 25 kgs
Paranagua, 1 cs. 1 ck.
Santiago de Cuba, 4
Cadiz, 20
Cavite, 18
Hamburg, 2 cs.
Mexico 10 50 brls. 7
Montreal, 2
Old Calabar, 1 12
St. Domingo, 1 kg 14
San Juan, 20

Painters' Colours—
Antwerp, 8 kgs.
Bahia, 25
Brass, 20
Bremen, 40 cks.
B. Ayres, 72 dms. 27 150 cs
Calcutta, 1 1
Gijon, 1 1
Naples, 10 brls.
N. Orleans, 200
New York, 1
Para, 6 tcs 175 7 2 22
Port-au-Prince, 1
Rotterdam, 5
Assinee, 3 dms. 14
Bombay, 347 23
Cartagena, N.G. 20
Ceara, 60 7 9
Iquitos, 8 tcs. 20 2
M. Video, 5 7
Pernambuco, 30 65

Parsffin Wax—
Porto Alegre, 54 dms.

Phosphorus—
Mexico City, 1 t 10 c. 2 q. £188
Kingston, Ja, 2 cs. 26
Vera Cruz, 6 66
Shanghai, 30 300
Kobe, 36 446

Potassium Bichromate—
Alexandretta, 1 t. 4 c. £51

Potassium Carbonate—
New York, 9 t. 8 c. £182

Potassium Chlorate—
Sydney, 15 c. £45
Mexico City, 11 3 q. 36
Calcutta, 5 16
Hiogo, 57 t. 19 3,400
Boston, 15 15 958
New York, 22 1,326
Rotterdam, 10 32
Shanghai, 5 326
Odessa, 3 199
B. Ayres, 2 114
Yokohama, 13 910
Genoa, 10 30
Antwerp, 6 17

Potassium Stannate—
Bombay, 1 t. 5 c. 1 q. £94

Salt—
Algoa Bay, 5 t 7 c.
Barbadoes, 425
Bonny, 30
B. Ayres, 42
Canada, 180
E. London, 10
Galveston, 449 2
Ghent, 300
Gijon, 8
Gr. Bassam, 5
Halifax, 365 2
Jamaica. 10
Mossel Bay, 17 17
N'castle N S.W., 282 17
New York, 80
Opobo, 25
Pt. Natal, 5
Salt Pond, 12 10
Sette Kroo, 2 10
Talcahuano, 2 3
Trinidad, 178 14
Accra, 12 10
Akassa, 401
Antwerp, 125
Baltimore, 50
Calcutta, 8,378
Cameroons, 48 10
Iquitos, 17 17
Lagos, 37
Manoh, 50 4
Matadi, 33 9
Melbourne, 23
Monrovia, 6
N. Orleans, 65
Noqui, 93 15
San Juan, 1 1
Sydney, 25
Toronto, 90 15

Saltcake—
Gijon, 55 t. 7 c. 1 q. £97

Saltpetre—
Bahia, 1 t. 18 c. 1 q. £45

Sheep Dip—
B. Ayres, 4 t. 5 c. £180

Soap—
Alexandria 15 cs.
Algoa Bay, 1,700 bxs. 18
Assinee, 50
Barbadoes 300
Bermuda, 50
Cairo, 20
Calcutta, 40
Cape Lahou, 20
Cape Town, 100 20
Constantinople 18 10
Curacao, 100
Drewin, 42
E. London, 2,816
Gibraltar, 447
Hong Kong, 200
Honolulu, 100
Kingston, Jam., 1,075
Lagos, 332 bxs.
La Plata, 8
Madras, 15
Malta, 32 31
Montego Bay, 30 11
New York, 175 2 cks.
Para, 200 1
Pernambuco, 1
Philadelphia, 10
Pt. Natal, 1,010 45
Rangoon, 200 5
Rotterdam, 500
St. Domingo, 20
St. John's, N F., 235 1
Shanghai, 2,450
Sierra Leone, 164
Smyrna, 47
Tangiers, 15
Trinidad, 1,150
Winnebah, 40
Acc a, 340
Akassa, 53 80 dm
Appam, 50
Axim, 175
Boma, 25
Bombay, 710 55
Cameroons, 75
Canada, 1
C. C. Castle, 70
Clarence, 58
Colombo. 7
Dominica, 20
Gr. Bassa, 150
Gr. Canary, 505
Gr. Tabou, 40
Guayaquil, 400
Leige Meuse, 490
Limassol, 1
Mexico, 2
Old Calabar, 300
Opobo, 250
Palma. 250
Pt. Elizabeth, 650
San Juan, 50
Sav la Mar, 427
Singapore, 1,933
Warri, 200

Soda Alkali—
Quebec, 50 brls.

Soda Ash—
Adelaide, 66 cks.
Baltimore, 51 200 bgs.
Bombay, 12 brls
Boston, 208 1,479
B. Ayres, 50 150
Ceara, 10
Maranham, 10 10
Melbourne, 198 8
Naples, 20
New York, 75 1,580
Philadelphia, 164 2,692 275
Rotterdam, 9
St. Johns, N.B., 10
Smyrna 200
Sydney, 370 68
Valparaiso, 150
Venice, 28
Bahia, 10
Calcutta, 32 100 kgs. 60
Hamburg, 50
Latakia, 30
Leghorn, 25
Maceio, 30
Maranham, 45
M. Video, 50
Montreal, 24
Santander, 22
Toronto, 25
Trenton, 13
Trieste, 11

Soda Crystals—
Alexandria, 8 brls.
Gibraltar, 10 67 cks.
Malta, 80 50
Melbourne, 6
Pernambuco, 100 30 kgs
Pt. Natal, 25
St John's, N.F., 30
Bombay, 40
Boston, 247 500
Calcutta 68
Constantinople, 20
Demerara, 4 t. 10 c.
Halifax, 25
Montreal. 67 brls.
Pt. Elizabeth, 50
Toronto, 25

Sodium Acetate—
Naples, 2 cks.

Sodium Biborate—
Toronto, 16 brls.
Antwerp, 11 cks.
Hamburg, 36
Montreal, 10

Sodium Bicarbonate—
Adelaide, 90 kgs 20 bgs.
Algoa Bay, 20 8 cks
B. Ayres, 50 19
Calcutta, 2,100
Cape Town, 20
Havre, 70
Hiogo, 50
Marseilles, 25
Melbourne, 700
Rangoon, 20
St. John's, N.B, 100

Sydney, 357
Tarragona, 70
Trinidad, 76
Vera Cruz, 20
Yokohama, 500
Barcelona, 100
Beyrout, 20
Bilbao, 40 brls.
Gijon, 10
Halifax, 75
Hamilton, 100
Las Palmas, 6
Odessa, 350
San Francisco, 100
Toronto, 50

Sodium Chlorate—
Trieste, 20 kgs.

Sodium Silicate—
Adelaide, 21 cks.
Calcutta, 16
Hamburg, 50 bgs.
Seville, 50
San Sebastian, 35 brls.
Talcahuano, 10
Valencia, 20

Sulphur—
Boston, 400 t. 7 c. £1,545
Calcutta, 15 60
Progresso, 3 1

Sulphuric Acid—
Rio Grande, 18 c. 3 q £10

Superphosphate—
Bordeaux, 24 t. 12 c. £53
Nantes, 94 6 2 q. 200
Gr. Canary, 25 63
Valencia, 50 115

Tin Crystals—
Montreal, 13 c. £36

Turpentine—
Calcutta, 100 dms.

Varnish—
Gijon, 1 ck.
Seville, 2 1 cs.
Barcelona, 8
Mexico, 25
M. Video, 1

White Lead—
Marseilles, 15 cks.

Zinc Chloride—
Piræus, 6 t. 10 c. £100
Windsor, N.S., 2 7 38

Zinc White—
Guayaquil. 66 cs.

MANCHESTER.

Week ending January 25th.

Aurine—
Rotterdam, 1 ck.

Soda Salts—
Antwerp, 14 cks.

Sodium Arseniate—
Treport, 8 brls.

Tallow—
Rotterdam, 15 cks.

Tar—
Rotterdam, 50 cks.

Tar Salts—
Rotterdam 32 cks.

Zinc Chloride—
Rotterdam, 20 cks.

HULL.

Week ending January 20th.

Ammonium Sulphate—
Antwerp, 928 bgs.
Dunkirk, 545
Marseilles, 100

Aniline Salt—
Reval, 37 cks.

Anthracene—
Rotterdam, 24 cks.

Bleaching Powder—
Boston, 195 cks.
Fiume, 136
Gothenburg, 2
Hango, 54

Borax—
Hamburg, 10 cks.

Carbolic Acid—
Dusseldorf, 52 cks.

Caustic Soda—
Danzig, 165 dms.
Libau, 118
Stettin, 10 10 cks.
Trieste, 35

Chemicals (*otherwise undescribed*)
Amsterdam, 20 pkgs.
Antwerp, 10
Bremen, 2 cks.
Christiania, 5 cs 24 2 pks.
Cologne, 6
Danzig, 100
Gothenburg, 25 20 105
Genoa, 16
Hamburg, 49 5
Libau, 4 63 130
New York, 30
Odessa, 50 43
Rotterdam, 40 21

Cottonseed Oil—
Amsterdam, 21 c.
Antwerp, 202
Bremen, 187
Cologne, 257
Flushing 203
Hamburg, 501
Leghorn, 200
Rotterdam, 2,384
Trieste, 205

Creosote—
Danzig, 100 cks.

Dyestuffs (*otherwise undescribed*)
Flushing, 2 cks.
Libau, 2 cs
Rouen, 10
Rotterdam, 4

Guano—
Dunkirk, 80 t.

Linseed Oil—
Amsterdam, 32 c.
Antwerp, 300
Bergen, 41
Bremen, 214
Christiania, 218
Dunkirk, 35
Drontheim, 17
Hamburg, 69
New York, 67

Manure—
Hamburg, 300 t.

Ochre—
Antwerp, 8 cks.

Painters' Colours—
Amsterdam, 3 cks.
Antwerp, 1 cs.
Bremen, 2
Christiania, 2 dms. 92 pks.
Danzig, 100 pkgs.
Libau, 10
Marseilles, 39 cks. 1
New York, 15
Odessa, 5 8
Palermo, 7
Rouen, 1
Rotterdam, 15 2 2 pkgs.

Pitch—
Antwerp, 240 t.
Marseilles, 84

Size—
Harlingen, 2 cks.

Soap—
Aalesund, 1 ck.
Christiania, 32 cs.

Tar—
Hamburg, 10 cks.

Varnish—
Amsterdam, 1 cs.
Antwerp, 1 1 dm.
Marseilles, 12 2

GLASGOW.

Week ending January 25th.

Acids—
Rangoon, £54

Alumina Sulphate—
Melbourne, 8 t. 11 c. £30

Ammonium Sulphate—
Demerara, 351 t. 9½ c. £4,766

Bleaching Powder—
Philadelphia, 3 t. 15½ c. £35
Newcastle, N.SW. 6 5½ 45
Cape Colony, 6 17 66

Carbolic Acid—
Rotterdam, 13 cks. £40

Castor Oil—
Adelaide, 58½ glns. £20
Newcastle, N.S.W., 187 50

Caustic Soda—
Demerara, 3 t. 11¼ c. £33
Adelaide 5 9 47
New York, 10 4 95

Chloride of Lime—
New York, 4 t. 19 c. £39

Coal Products—
Aniline Oil
Oporto, 6 t. 3 c. £10
Pitch
Amsterdam, 250 t. £350
Bombay, 270 32
Oporto, 246 19½ c. 230
Dieppe, 530
Tar
Bombay, 22 t. 10 c. £35

Coal Tar Products (*otherwise undescribed*)—
Rotterdam, 13 dms. £130

Cottonseed Oil—
Hamburg, 33 brls. £120

Disinfectants—
Bombay, 2 t. 14 c. £31

Glucose—
Cape Colony, 2 t. 18¼ c. £33

Lead Acetate—
Bombay, 7 t. 12 c. £117
Halifax, 2 3¼ 57

Linseed Oil—
Mauritius, 1 t. £28
Demerara, 2 12½ c. 59
Adelaide, 3 15½ 95
Melbourne, 2 1¼ 57
Newcastle, N.SW. 1 3 29
Cape Colony, 3 7 82

Litharge—
Oporto, 2 t. 7 c. £31

Magnesium Sulphate—
Melbourne, 5 t. £22

Manganese Oxide—
New York, 10 t. 5 c. £103

Manure—
Mauritius, 51 t. 1 c. £700

Muriatic Acid—
Bombay, 13 t. 8 c. £62

Nitre Cake—
Melbourne, 25 t. £30

Paint—
Rangoon, 6 t. 10 c. £80. 17s.
Calcutta, £150
W. Indies, 19¾ 37
B. Ayres, 17 18¼ 216
New York, 3 6 69
Newcastle, N.SW. 1 19 47
Natal, 2 18½ 70

Painters' Colours—
Mauritius, 4 t. 2½ c. £53
Calcutta, 20 3 285
Melbourne. 3 ¼ 56

Paraffin Wax—
Bordeaux, 4 t ¼ c. £120
Rouen, 5 6 129
Hamburg, 1 13 40

Potash Salts—
Cape Colony, 9 t. 16¼ c. £705
Natal, 4 3 347

Potassium Bichromate—
Gothenburg, 7 t. 2 c. £256
New York, 18 13¾ 741
Philadelphia, 8 6 330
Rouen, 5 1¼ 201

Rosin Oil—
Melbourne, 4 t. 6½ c. £27
Newcastle, N.SW 2 4 40

Salt Cake—
Baltimore, 199 t. 13¾ c. £440

Soap—
Demerara, 3 t. 16 c. £51
New York, 1 7½ 25
Cape Colony, 6 15½ 110

Soda Ash—
Baltimore, 34 t. 1¼ c. £153

Sodium Bichromate—
New York, 7 t. 16½ c. £256
Rouen, 5 2 167

Sodium Nitrate—
Demerara, 76 t. 6¼ c. £976

Sulphuric Acid—
Mauritius, 1 t. 17½ c. £65
Demerara, 4 12 40

Tallow—
Rotterdam, 18 t. 10 c. £700

Varnish—
Melbourne, 93½ glns. £37

White Lead—
Melbourne, 3 t. £66
Newcastle. N SW. 11 13 c 252
Cape Colony, 7 14 153

TYNE.

Week ending January 20th.

Alkali—
Antwerp, 10 t. 1 c.
Bergen. 3
Rotterdam, 1 2

Alum—
Seville, 1 t. 1 c.

Ammonium Sulphate—
Antwerp, 30 t.

Antimony—
Rotterdam, 2 t.

Bleaching Powder—
Antwerp, 35 t. 2 c.
Genoa, 9 19
Seville, 1 12
Rotterdam, 13 8
Drontheim, 9 19
Gothenburg, 5

Borax—
Ergasteria, 9 c.

Caustic Soda—
Christiania, 4 t. 18 c.
Bergen, 2
Seville, 23 19
Valencia, 14 11

Litharge—
Hamburg, 1 t. 8 c.
Christiania, 5 14
Rotterdam, 10

Manure—
Jersey, 54 t. 19

Paint—
Antwerp, 1 t.
Bergen,

Rosin Oil—
Hamburg, 4 t.

Soda—
Genoa, 13 t. 17 c.
Odense, 6 5
Ergasteria, 11
Rotterdam, 5
Reval, 10 7
Gothenburg, 5 2

Soda Ash—
Antwerp, 10 t. 3 c.
Christiania, 6 17
Copenhagen, 20 9

Sodium Nitrate—
Gothenburg, 19 c.

Sodium Silicate—
Seville, 1 t. 13 c.

Sulphur—
Antwerp, 5 t.
Gothenburg, 35

Superphosphate—
Bordeaux, 9 t. 16 .
Genoa, 200 1

Tallow—
Hamburg, 4

White Lead—
Copenhagen, 1 t. 11 c.

Zinc Ashes—
Antwerp, 1 . 7 c.

GOOLE.

Week ending January 17th.

Chemicals (*otherwise undescribed*)
Antwerp, 1 ck.
Boulogne, 3
Ghent, 10 156 t.
Rotterdam, 81

Coal Products (*otherwise undes.*)
Boulogne, 27 cks. 3 dms.
Ghent, 20 1 tin.
Hamburg, 2

Dyestuffs (*otherwise undescribed*)
Hamburg, 1 ck.

Manure—
Boulogne, 110 bgs.

Pitch—
Antwerp, 640 t.

GRIMSBY.

Week ending January 20th.

Chemicals (*otherwise undescribed*)
Antwerp, 2 cks.
Dieppe, 3 47 pkgs.
Hamburg, 4

Coal Products (*otherwise undes.*)
Dieppe, 1 cs. 26 cks.

Manure—
Antwerp, 20 t.

PRICES CURRENT.

WEDNESDAY, JANUARY 31st, 18

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 116, PORTLAND STREET, MANCHESTER.

The values stated are F.O.R. at maker's works, or at usual ports of shipment in U.K. The price in different localities may va

	£	s.	d.
Acids:—			
Acetic, 25 °/₀ and 40 °/₀ .. .. per cwt.	7/3 & 11/3		
,, Glacial .. .. ,,		50/-	
Arsenic S.G., 2000° .. .. ,,	0	14	6
Fluoric .. .. per lb.	0	0	3¾
Muriatic (Tower Salts), 30° Tw. .. .. .. per bottle	0	0	10
,, (Cylinder), 30° Tw. .. .. ,,	0	3	0
Nitric 80° Tw. .. .. per lb.	0	0	1¾
Nitrous .. .. ,,	0	0	1¾
Oxalic .. .. nett ,,	0	0	3½
Phosphoric, 1750° .. .. ,,	0	1	2½
Picric .. .. ,,	0	1	0
Sulphuric (fuming 50 °/₀) .. .. per ton	15	10	0
,, (monohydrate) .. .. ,,	5	10	0
,, (Pyrites, 168°) .. .. ,,	3	0	0
,, ,, 150° .. .. ,,	1	5	0
,, (free from arsenic, 145°) .. .. .. ,,	1	6	0
Sulphurous (solution) S.G. 1025 .. .. .. ,,	3	0	0
Tannic (pure) .. .. per lb.	0	1	2
Tartaric .. .. ,,	0	0	11
Arsenic, white powdered .. .. nett per ton	14	0	0
Alum (loose lump) .. .. ,,	5	2	6
Alumina Sulphate (pure) .. .. ,,	5	0	0
Aluminoferric .. .. ,,	2	10	0
Aluminium .. .. per lb.	0	3	0
Ammonia, Anhydrous .. .. ,,	0	1	[illegible]
,, ·880=28° .. .. per lb.	0	0	3
,, =24° .. .. ,,	0	0	2¼
,, Carbonate .. .. nett ,,	0	0	3¾
,, Muriate .. .. per ton	25	10	0
,, ,, (sal-ammoniac) 1st & 2nd .. per cwt.	39/- & 37/-		
,, Nitrate .. .. per ton	44	0	0
,, Phosphate .. .. per lb.	0	0	10½
,, Sulphate (grey) London .. .. .. per ton	14	2	6
,, ,, (grey) Hull .. .. ,,	14	2	6
Aniline Oil (pure) .. .. per lb.	0	0	6¼
Aniline Salt ,, ... ,,	0	0	5¾
Antimony .. .. per ton	45	10	0
,, (tartar emetic) .. .. per lb.	0	1	0
,, (golden sulphide) .. .. ,,	0	0	10
Barium Chloride .. .. per ton	7	10	0
,, Carbonate (native) .. .. ,,	3	10	0
,, Sulphate (native levigated) .. .. .. ,,	45/- to 75/-		
Bleaching Powder, 35 % .. .. nett ,,	7	15	0
,, Liquor, 7 % .. .. ,,	3	10	0
Bisulphide of Carbon .. .. ,,	11	15	0
Chromium Acetate (crystal) .. .. per lb.	0	0	6
Calcium Chloride .. .. per ton	2	5	0
China Clay (at Runcorn) in bulk .. .. .. ,,	17/6 to 35/-		
Coal Tar Products and Dyes:—			
Alizarine (artificial) 20 % .. .. .. net per lb.	0	0	8
Magenta .. .. ,,	0	3	9
Anthracene, 30 % A, f.o.b. London .. per unit per cwt.	0	1	1
Benzol, 90 % nominal .. .. .. per gallon	0	1	3
,, 50/90 ,, ... ,,	0	1	5
Carbolic Acid (crystallised 40°) .. .. .. per lb.	0	0	6
,, (crude 60°) .. .. per gallon	0	1	8
Creosote (ordinary) .. .. ,,	0	0	2½
,, (filtered for Lucigen light) .. .. ,,	0	0	3
Crude Naphtha 30 % @ 120° C. .. .. .. ,,	0	0	8½
Grease Oils, 22° Tw. .. .. per ton	2	5	0
Pitch, f.o.b. Liverpool or Garston .. .. .. ,,	1	9	0
Solvent Naphtha, 90 % at 160° .. .. .. per gallon	0	1	3
"Lucigen" and "Wells" Oils .. .. ,,	0	0	2½
Copper .. .. per ton	41	10	0
,, Sulphate .. .. ,,	15	10	0
,, Oxide (copper scales) .. .. ,,	40	0	0
Glycerine (crude) .. .. ,,	13	0	0
,, (distilled S.G. 1250°) .. .. ,,	43	0	0
Iodine .. .. nett, per oz.	0	0	9
Iron Sulphate (copperas) .. .. per ton	1	10	0
,, Sulphide (antimony slag) .. .. ,,	2	0	0
Lead (sheet) for cash .. .. ,,	10	10	0
,, Litharge Flake (ex ship) .. .. ,,	13	0	0
,, Acetate (white ,,) .. .. ,,	26	0	0
,, ,, brown ,,) .. .. ,,	17	10	0
,, Carbonate (white lead) pure .. .. .. ,,	20	0	0
,, *Nitrate* .. .. ,,	20	0	0

	£	s.	
Lime, Acetate (brown) .. .. per ton	6	12	
,, ,, (grey) .. .. ,,	10	5	
Magnesium (ribbon and wire) .. .. per oz.	0	2	
,, Chloride (ex ship) .. .. per ton	2	10	
,, Carbonate .. .. per cwt.	1	17	
,, Hydrate .. .. per ton.	17	0	
,, Sulphate (Epsom Salts) .. .. .. per ton	2	19	
Manganese, Sulphate .. .. ,,	17	15	
,, Borate .. .. per cwt.	2	12	
,, Ore, 70 % .. .. per ton	4	5	
Methylated Spirit, 61° O.P. .. .. per gallon	0	2	
Naphtha (Wood), Solvent .. .. ,,	0	3	
,, ,, Miscible, 60° O.P .. .. .. ,,	0	5	
Oils:—			
Cotton-seed .. .. per ton	22	0	
Linseed .. .. ,,	21	10	
Petroleum, Russian .. .. per gallon	0	0	
,, American .. .. ,,	0	0	
Phosphorus (yellow) .. .. per lb.	0	2	
,, (red) .. .. ,,	0	2	
Potassium (metal) .. .. per oz.	0	3	
,, Bichromate .. ..nett per lb.	0	0	
,, Carbonate, 90% (ex ship) .. .. .. per ton	16	10	
,, Chlorate .. .. per lb.	0	0	
,, Cyanide, 98% .. .. ,,	0	2	
,, Hydrate (Caustic Potash) 80/85 % .. per ton	21	15	
,, ,, (Caustic Potash) 75/80 % .. ,,	20	10	
,, ,, (Caustic Potash) 70/75 % .. ,,	20	0	
,, Nitrate (refined) .. .. per cwt.	1	2	
,, Permanganate .. .. per cwt.	3	5	
,, Prussiate Yellow .. .. per lb.	0	0	
,, Sulphate, 90 % (ex ship) .. .. .. per ton	9	15	
,, Muriate, 80 % (do.) .. .. .. ,,	8	0	
Silver (metal) .. .. per oz.	0	2	
,, Nitrate .. .. ,,	0	2	
Sodium (metal) .. .. per lb.	0	3	
,, Carb. (refined Soda-ash) 48 % ..nett per ton	5	5	
,, ,, (Caustic Soda-ash) 48 % .. ,, ,,	4	2	
,, ,, (Carb. Soda-ash) 48% .. .. ,, ,,	4	2	
,, ,, (Carb. Soda-ash) 58 % .. .. ,, ,,	4	2	
,, ,, (Soda Crystals) .. .. .. ,, ,,	3	0	
,, Acetate (ex-ship) .. .. ,,	15	10	
,, Arseniate, 45 % .. .. ,,	11	0	
,, Chlorate .. .. per lb.	0	0	
,, Borate (Borax) .. .. net, per ton.	28	0	
,, Bichromate .. .. ,, per lb.	0	0	
,, Hydrate (77 % Caustic Soda) (f.o.b.) net pr. ton (10 ton lots)	11	0	
,, ,, (74 % Caustic Soda) ,, ,, ,,	10	5	
,, ,, (70 % Caustic Soda) ,, ,, ,,	9	5	
,, ,, (60 % Caustic Soda) .. ,, ,,	8	5	
,, ,, (60 % Caustic Soda, cream) (f.o.b.) ,,	8	0	
,, Bicarbonate .. .. ,,	6	15	
,, Hyposulphite .. .. ,,	6	0	
,, Manganate, 30% .. .. ,,	16	0	
,, Nitrate (95 %) ex-ship Liverpool .. .. per cwt.	0	9	
,, Nitrite, 98 % .. .. per ton	29	10	
,, Phosphate .. .. ,,	15	0	
,, Silicate (glass) .. .. per ton	5	7	
,, ,, (liquid, 100° Tw.) .. .. .. ,,	4	5	
,, Stannate, 40 % .. .. per cwt.	3	0	
,, Sulphate (Salt-cake) .. .. per ton.	1	0	
,, ,, (Glauber's Salts) .. .. ,,	1	10	
,, Sulphide .. .. ,,	8	10	
,, Sulphite .. .. ,,	5	15	
Strontium Hydrate, 100% .. .. ,,	8	10	
Sulphocyanide Ammonium, 95 % .. .. per lb.	0	0	
,, Barium, 95 % .. .. ,,	0	0	
,, Potassium .. .. ,,	0	0	
Sulphur (Flowers) .. .. per ton.	8	0	
,, (Roll Brimstone) .. .. ,,	6	10	
,, Brimstone: Best Quality .. .. .. ,,	4	2	
Superphosphate of Lime (26%) .. .. ,,	2	7	
Tallow .. .. ,,	28	0	
Tin (English Ingots) .. .. ,,	75	10	
Tin Crystals .. .. per lb.	0	0	
Zinc (Spelter) .. .. per ton	16	2	
,, Chloride (solution, 96° Tw.) .. .. .. ,,	5	15	

THE

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BLEACH AND CAUSTIC BY ELECTROLYSIS.

FOR some considerable time past the atmosphere of the Chemical world has been heavily laden with rumours of an approaching revolution in the manufacture of bleach and caustic, in which electrolysis is to play the leading part. It is true that rumour after rumour has come to an untimely end in bitterness and disappointment, but it is nevertheless equally true that most of these premature forecasts have marked real advances towards the end in view.

We now learn that the indefatigable investigators who have so long been pursuing their researches at Snodland are satisfied that they have reached the haven where they would be, and that their process is sufficiently completed to come forth into the world on the large scale, and to yield a golden harvest to expectant investors. We propose to devote a little space to an impartial consideration of the project, although we have been given to understand that the prospectus which was issued has been withdrawn, and that the plans of the syndicate have since undergone considerable modification.

The Alkali Chemical Company, Limited, as the undertaking was to have been called, had a nominal capital of £200,000., of which £100,000. went to the patentees, partly in cash and partly in shares, as payment for the various patent rights. Now, we must ask our readers to bear in mind that charging saltcake at 35s. per ton, 70% caustic can be made by the ordinary Le Blanc process for £7. 10s. per ton, and that bleach can be made by the Weldon process if the hydrochloric acid is reckoned free for £3. 10s. per ton, and that neither of these processes are hampered by any patent rights. We select the Weldon process rather than the Deacon as a basis of calculation, partly because it is better known than the latter, and partly because the largest bleach works that has been erected in recent years has been built upon Weldon lines and by people who had already given evidence of their ability and judgment in the manufacture of ammonia soda. Seeing now that it is open for anyone with £100,000. available, to spend his money in building a works for the production of Le Blanc caustic and Weldon bleach, and that this money if wisely spent would yield a gross tonnage output very similar to that contemplated by the Alkali Chemical Company, Limited, with its capital of £200,000., we have a very clear definition of the task that electrolysis had set itself—it had to make profits which should be twice as great as those yielded by the Le Blanc and Weldon processes, for we submit that the standard of comparison must be, not between the electrolytic cost of production and the selling price of the day, but between the cost of electrolytic production and that of production by the older processes which electrolysis is to supersede.

Amongst the reports and certificates issued by the projectors of the Alkali Chemical Company, Ltd., we notice one by Professor Hopkinson, another by Mr. Swinburne, and a

third by Mr. J. Leith, of which the first deals with the electrical aspect of the question pure and simple, and the two latter are concerned with the general problem of manufacture. As Professor Hopkinson deals with little more than the cost of production of the electrolytic current, and as we are quite willing to accept his figures (although we must remark that his testimony to the value of the new cathodes—copper, covered with cupric oxide—is only dated December 18th, 1893), we will at once pass on to what Mr. Swinburne and Mr. Leith have to say with regard to the cost of production. Mr. Swinburne says that he has no doubt that one ton of caustic and 2¼ tons of bleach can be made to sell for £13. 10s. When we remember that this after all is only an estimate, we are bound to come to the conclusion that it is perilously close to the cost of producing the same results by Weldon and Le Blanc, namely, one ton of caustic at £7. 10s., plus 2¼ tons of bleach at £3. 10s.—total, £15. 7s. 6d. We scarcely find here a justification for diluting the profits to the extent of 100 per cent. with payments to patentees, and our misgivings are increased when we look closely into the report of Mr. Leith. Mr. Swinburne not only tells us that a ton of bleach and 2¼ tons of caustic can be produced to sell at £13. 10s., but he also tells us that of this £13. 10s. five pounds may be considered as the cost of the electrical power required. Now, Mr. Leith in his statement of estimated revenue and expenditure deals with the latter item under the following heads:—(1) Salt, (2) lime, (3) fuel, (4) drums, casks, etc., (5) salaries, wages, rent, rates, and taxes, (6) carriage and contingencies. Of these Nos. 1, 2, 4, and 6 are not, we presume, connected with this item of power, and Nos. 3 and 5 added together come to less than the power estimate of Mr. Swinburne. As we prefer when at sea to take the advice of a sailor, we shall accept Mr. Swinburne's estimate of the cost of power, which involves the conclusion that the whole of the fuel, salaries, wages, rent, rates, and taxes that Mr. Leith has made provision for will be swallowed up in providing the electrolytic current. From this it follows that Mr. Leith can have made no allowance for the cost of boiling down the weak caustic liquor, for the manual labour which is the necessary accompaniment of the conversion of this liquor into marketable 70% caustic, for the slacking and sieving of the lime, for the liming of the chambers, for the packing of the powder, in short for the general labour, management, and superintendence of the works as distinguished from the actual production of the electrolytic current. It is true that Mr. Leith puts down about 6s. per ton for carriage and contingencies, but, if under the head of contingencies we are to include laboratory and office expenditure, repairs, renewals, and depreciation, we fear the bleach and caustic will have to be used in the very immediate neighbourhood of the works where it is produced. We notice too, from the revenue side of his statement, that Mr. Leith expects to realise £9. 10s. per ton for the 70% caustic, and £8. per ton for the bleach, but we need hardly point out to our readers that these figures are very much in excess of the contract prices even for 1894, and that as the world is already supplied with bleach and caustic, and as the older processes will certainly not die without a struggle, there is every probability that both bleach and caustic will go considerably lower before the electrolytic process can put its product on the market to the equivalent exclusion of Leblanc and Weldon.

There are a few other matters in connection with Mr. Leith's estimate of the cost of production that we should like to criticise if space permitted, and to which we may return on some future occasion. For the present we will confine ourselves to the placing of a very large note of interrogation after the statement that caustic soda and chlorine products of all sorts can be manufactured at a saving of considerably over £5. per ton on the processes which are used by the United Alkali Co. This would mean that the Alkali Chemical Co., Limited, will produce bleach and caustic practically for nothing, but what, in the name of fortune, we are compelled to ask, is going to be done with the money which is set apart for salt, lime, drums, carboys, etc., not to speak of "contingencies?"

There is one other point upon which we should have liked a little more specific information, and that is the cost of the carbon anodes. We are told that they will last a considerable time, and that they are comparatively inexpensive; but as the want of a suitable anode has all along been one of the greatest obstacles to the success of the Electrolytic process, we feel sure the public would prefer to have before it some more detailed information with respect to what the cost of the maintenance of the anodes will amount to per ton of bleach and caustic.

In taking a final survey of the whole question, we must not forget that the Electrolytic process, if successful, will increase the competitive powers of such makers by the older processes as may be left to continue the struggle. Take the case of the large Weldon Works to which we have referred above. Not being equipped with a caustic soda plant it is compelled to sell its salt cake, and salt cake has dropped to a figure that is without precedent in the history of Industrial Chemistry. But now suppose half the bleach production of the world to be due to the Electrolytic process. This would inevitably mean a corresponding rise in the value of salt cake and an accession of strength, as we have said before, to those producers of bleach who sell salt cake as well. But we noticed that the Alkali Chemical Co. were also prepared to reap such a contingent benefit as this, as part of their scheme we gather was the erection of a Leblanc works. The idea is amusing, but certainly suggestive, and probably wise.

We have already referred to the task before the Alkali Chemical Co. as that of making profits double those of the Leblanc and Weldon, and we are bound to confess that we hardly see from the figures before us how this result is to be attained. It is true that there is one item of revenue that we have left out of consideration, namely, the Royalties that may be paid to the company for permission to use their process, but this is a source of revenue upon which we think it would not be wise to place too much reliance, as on the one hand the Royalty may probably represent the difference of cost of manufacture between the old and the new process, and so rob the latter of its attractions, and on the other hand the possibilities of infringement, of evasion, and of improvement, greatly detract from the value of this security.

We have no feeling whatever against the proposed Alkali Chemical Co. We wish it every success, and we cannot refrain from giving our tribute of praise to those who have worked so hard at the Electrolytic process, and have brought it to its present stage of success. We have simply dealt with the data at our disposal from a business point of view, and in as impartial a manner as we could. We should only be too pleased to know that we have under-rated the advantages of the new process, and have lost sight of some weighty considerations that might give an entirely different turn to our opinion.

Jeye's Sanitary Compounds Co., Ld.—This company, after making ample provision for depreciation, &c., and placing £1,500. to reserves, has declared a dividend at the rate of 10 per cent. per annum in addition to a bonus of 2½ per cent., the whole free of income tax, leaving a balance of £996. to carry forward.

Our Book Shelf.

LLUNG VON CHLOR-UND SALZSAURE. By N. Caro. 116 pp. figures. Berlin: Robert Oppenheim. 1893. 3s.

widespread endeavours to cheapen bleach, or the hydrochloric m which it is indirectly obtained, has resulted in the work of nerous investigators who have taken up this subject, being d up and down the literary world, and patent literature, in a which has hitherto rendered the compilation of a summary of ous processes which have been proposed a very arduous task. hor has in this work presented a conspectus of these processes, classified the same under five headings, viz.: Processes for turing chlorine from ammonia-soda calcium chloride liquors; te liquors from the Leblanc-Weldon process; the production of from magnesium chloride, as mined at Stassfurt; the direct ion of chlorine from salt, which heading is divided into four sub-s, including the process in which sulphuric acid is not used, those ng upon the action of chromic acid, nitric acid processes, and ecified class; and the last, or fifth heading, includes electrolytical s, of which some 40 are mentioned.

book does not even pretend to criticise in any way the individual s, as in almost every case the essential data for so doing—to actical results—are absolutely unobtainable, since they have isted. The author has, however, presented in a form con- for reference, an outline of the principal features and reactions process almost up to the present time, and in so doing has a decided want, while the value of the work will be enhanced progress of time, and as subsequent inventors find the need of ble to readily gather what ground had been covered by their ssors. In all, some hundred and twenty processes are dealt with.

CTS FROM "MICROGRAPHIA," by Robert Hooke (1665). . Reprinted. Edinburgh: W. F. Clay. 1894. 1s. 6d.

itle of this, the fifth of the series of Alembic Club reprints, first seem somewhat remote from matters of chemical interest, closer investigation the booklet proves to be one of the most ng of the series as yet published.

e's original book is a remarkable work, but only those portions most strikingly noteworthy are here reproduced.

so many erroneous theories about combustion were exciting so terest, it is strange that one who had chiefly devoted his atten- nicroscopy should have arrived at such sound deductions con- the process of combustion. It is much to be regretted that never completed the projected working out of his hypothesis, as ncluding remarks he hints that he had perceived, in some , the part played by air in respiration, and other functions of rinciple or propriety of the air in chymical, mechanical and erations."

ther experiments referred to in this reprint are possessed of able interest in themselves, but which pales somewhat in the the important statements embodied in "Observations of Char- Burnt Vegetables." According to the custom which obtains inal spelling is retained, and altogether the book constitutes a addition to the series, which should arouse more than passing

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ICKSTOFFHALTIGEN ORTHOCONDENSATIONS PRODUCTE. By . Kühling. 628 pp. Berlin: Robert Oppenheim, 1893. 14s.

work is a collection of the nitrogenous ortho-condensation s arranged in a tabular form, and gathered from all kinds of d and patent literature, so as to present a comprehensive hand- these compounds. The first part gives a synopsis of the con-, preparation, and behaviour of the compounds in this group, om a German point of view is a most important one, as it un- ly is. The chief feature of the work is the tabular arrangement ompounds under their various sub-divisions. The author asks ulgence of other technologists for the mistakes and errors in the d taking into consideration the scope of the book and mass of which it contains, it will be strange if the reader does not allow able latitude in this connection. More particularly should this nce the author proposes to eventually produce a second edition, hall be as free from faults as it is possible for a work of this be.

GOVERNMENT ANNUAL. By S. Edgecumbe-Rogers. 300 pp. ndon: Office of the *Local Government Journal*. 1894. 1s. 6d.

Year Book of Local Government, which is now in its third year, all kinds of information, either useful or interesting, to a great of people, besides those directly connected with Local Govern- ment. By no means one of the least interesting features is the Local Government Annual and Remembrancer which forms the first part of the book. Improvements and extensions have been made this year, the list of medical officers to Corporations being likely to prove a convenient addition. The provision of contents-headings to each page is also a distinct advance. The need of an accurate and up-to-date source of reference upon these matters has been great, and is now to all intents removed; while this end has also been effected cheaply, when consideration is given conjointly to the price of the handbook and the fact that it is the only complete directory of Local Government, giving as it does addresses as well as names.

CATALOGUE OF SECOND-HAND AND NEW BOOKS. 44 pp. Edinburgh: W. F. Clay. 1894

These catalogues, which are periodically produced, contain a list of a number of useful works, obtainable at considerably reduced figures, though often they are almost in as good condition as when new.

The latest edition contains some additional offers, which are worthy the notice of those interested in, or seeking for, the latest additions to chemical, physical metallurgical or technological literature; while much of the remaining contents will doubtless be acceptable to all who wish to get standard books at a nominal price.

The monographs of the late Dr. C. Schorlemmer are likely to attract considerable attention, and are offered individually at prices ranging from one penny to a shilling.

PROVINCIAL PRESS IN LONDON. By W. H. Wellsman. 62 pp. London. 1893. 1s

This Directory gives a list of the English provincial, Scotch and Irish newspapers having offices in London. In addition to the usual information given about dailies and weeklies, the office hours, latest times for receiving advertisements and news in London, and the earliest hour or day the papers may be had in the Metropolis are duly set forth. The names of London agents are also given.

The compilation of such a work has necessarily been attended with many difficulties, most of which seem, however, to have been overcome, and apart from a few minor errors, the Directory is all that can be desired. Handy, neat, and concise as it is, it should enjoy a goodly share of patronage among those for whom it caters.

CALVERT'S MECHANICS' ALMANAC. By W. Calvert. 62 pp Manchester: J. Calvert and Sons. 1894. 4d.

This familiar annual contains all the customary features which have characterised it in the past. The usual collection of recipes, hints, and formulæ recur. The calendar does not record the fact that the Ship Canal was opened on the first of January, 1894, though we half expected to find mention of the fact. The two best contributions are those dealing with hints to inventors, and American twist drills. Some of the useful hints might have been more carefully revised. Elixir vitriol is now a rather ambiguous and antiquated expression to use in a receipt for removing the bluing on steel, even in a mechanic's almanac. Otherwise, the production is quite up to the standard of past issues.

OBITUARY.—It is with true regret that we chronicle the death of *Mons. Alfred Solvay*, the founder and chief director of the Société Solvay et Cie, which took place recently at Nice, at the age of 54. The deceased was a popular and much-respected man, who was well known for his affable and pleasing manner, and kindly and simple nature; which worthy characteristics were always conspicuous, despite the affluence to which he attained and the fortune which he amassed. The obsequies were attended by a great many well-known personalities distinguished in science, politics, and finance. Many justly eulogistic references were made to the late savant, chief among which were the fitting allusions of Mons Mayoussier, director of the Société de Saint Gobin. Wreaths of flowers were sent from all the works using the Solvay process in France, Germany, and Russia.

A GLUE WORKS BURNT DOWN.—The glue works of Messrs. T. Bindley and Sons, at Smethwick, near Birmingham, have been completely destroyed. The fire is supposed to have originated in the stove under the heating apparatus in the drying-room, where it rapidly extended to the rafters and shot through the roof. In about ten minutes the whole range of shopping was enveloped in flames. Eight local brigades were promptly in attendance, and continued to work hard for at least four hours. Their efforts, however, were unavailing to save the buildings, which were completely gutted. The machinery was also badly damaged. In addition to the damage done to the buildings a large quantity of stock was consumed. The damage, roughly estimated at about £15,000., is covered by insurance. The firm ask in consequence, for indulgence in the matter of execution of orders, and are making temporary arrangements for resuming manufacturing operations.

Legal Intelligence.

HIGH COURT OF JUSTICE.

DIVISIONAL COURT OF QUEEN'S BENCH DIVISION.

(Before Justices Mathew and Collins.)

LYON *v.* GODDARD.

This was an application for an order for damages against Messrs. Goddard, Massey and Warner, for the breach of an injunction previously granted. Mr. Bousfield in supporting the application said he had to move to commit two of the defendants—Mr. Massey and Mr. Warner—for contempt of court in reference to their breach of an injunction granted by Mr. Justice Wright, restraining the infringement of a patent in respect of disinfecting machinery used principally by public bodies. The judgment of Mr. Justice Wright had been upheld on appeal to the Lords Justices. Application was then made for a stay pending an appeal to the House of Lords, but was refused. Some months after the plaintiffs discovered by the merest chance that one of the machines the defendants had in stock had been sold to Shanghai as if it were a matter of business in the ordinary way. The machine had never been brought into account before the Official Referee, as ordered by the Lord Judge. When the matter was before the Court of Appeal the Master of the Rolls was rather anxious that the plaintiffs should allow four machines to be supplied on public grounds, but as the defendants would not pay royalties, Messrs. Lyon stood upon their rights.

Mr. Wallace said his clients certainly had committed a breach of the injunction.

Mr. Justice Mathew: What form of punishment will you take? (Laughter)

Mr. Wallace said the machine in question was the only one that had been sold in contravention of the order of the Court. His clients had acted under a mistake as to the scope of the injunction and the meaning of the law. They thought the injunction only referred to machines to be sold in England. The machine here was in course of construction before the trial, and was one of those the plaintiffs were allowed to go on with. It was sent to the Corporation of Oldham, who returned it because of the litigation about the patent. The Oldham machine had been brought into account before the referee, but there was no mention of its having been sent to Shanghai. The reason was that in November, when the account was made up, the item had not been brought into the day book, and it was omitted from the account by inadvertence. Upon the last day, however, before the Official Referee, his attention was called to it, and he would take it into consideration in making his award. There were some 54 machines manufactured altogether, and the account dated from 1887. Mr. Goddard had left the business for some time, and had nothing to do with the matter.

Mr. Warner was not cognisant with the proceedings, he was away from business at the time, and Mr. Massey was solely responsible for anything that had been done. The facts stated were set out in the affidavits of the two defendants, and they both said they were sorry for what had taken place, and they gave particulars how the matter arose and the manner in which they were misled.

Mr. Mathew: What do you ask, Mr. Bousfield?

Mr. Bousfield said the machine was not brought into account until after the notice of motion. It was an extremely serious matter.

Mr. Justice Mathew: No doubt about it.

Mr. Bousfield asked that the defendants should give a further affidavit of documents and give inspection and deliver up all machines, complete, or in process of manufacture, in their custody or control. The plaintiffs would have been entitled to an order for delivering up or destruction at the trial had they not been lenient and not insisted upon their rights. There were still three or four machines, finished or unfinished. He also asked that the defendants should be ordered to pay the royalty upon the machine sent to Shanghai.

Mr. Justice Mathew: There is an appeal pending to the House of Lords?

Mr. Wallace: Yes.

Mr. Bousfield said the plaintiffs' patent had only a few months to run, and the endeavour of the defendants was to keep the business going until then when all would go merrily. The Corporation of Oldham would not take the machine because they would have had to pay the royalty of £100. for the user. The machine having been sent to Shanghai, Messrs. Lyon could not now get the royalty.

Mr. Wallace had no objection to pay the plaintiffs the profit on the machine sent to Shanghai.

Mr. Bousfield asked for the royalty.

Mr. Wallace: They have no patent in China, and there is, therefore, no right to a royalty.

Mr. Justice Collins: Had you a binding contract with the Oldham Corporation to take the machine?

Mr. Wallace: Yes.

Mr. Justice Collins: Then why did you give it up?

Mr. Wallace: We could not force people to take a machine they could not use, and we had to take it back. In all the other in which we have supplied the machine in this country they hav the royalty. The error we have made is in making the machi this country.

Mr. Justice Mathew: We think the ordinary profit is enough.

Mr. Wallace did not object to making a fresh affidavit of docum But the delivery up or destruction of the machines would be a great penalty to impose. There were four machines as to which had been negotiations with the plaintiff. One was ordered b Islington vestry. They were worth from £300. to £400. each, a order the defendants to give them up would be making them £1,500., or £1,600. at least. It was only a portion of the plai patent in the machine. His clients had a patent in it also which had no right to use.

Mr. Justice Collins: Do you dispute that in ordinary circumst you would have to give up the machines?

Mr. Wallace did entirely. It was not even asked at the trial.

Mr. Bousfield: It was in the pleadings. The very flagrant cha of this case I have not troubled about.

Mr Justice Mathew: We are told negotiations are going on.

Mr. Bousfield said this dealing had put an end to them. machine had not been sent out to Shanghai, the plaintiffs might got their royalty upon it.

Mr. Wallace said his clients were prepared to give a bon £1,000., payable immediately, if they sold a machine in contrave of the injunction.

Mr. Bousfield submitted that the object of the defenders was to on this illicit trade without any perceptible break until the paten out in August. In the circumstances he was entitled to the ord asked for.

Mr. Justice Mathew said in this case the plaintiff was entitled order he had asked for. Therefore, the Court would direct th attachment should be drawn up, but that it should lie in the offi a fortnight and not be issued at all if the undertakings given complied with, which were that the defendants should give u machines mentioned, pay the costs of this application, and the made on the machine sold in Shanghai brought into the account.

Mr. Bousfield: Of course, they will have to make the affida documents to which I alluded and which my friend promised.

Mr. Justice Mathew: Yes.

Mr. Bousfield: I think in this case, too, we ought to have co between solicitor and clients.

Mr. Justice Mathew: Yes.

Mr. Wallace: Of course, this order is made against Messrs. M and Warner and not against Mr. Goddard, who is no longer a p in the concern.

QUEEN'S BENCH DIVISION.

(Sitting at Guildhall, before Mr. Baron Pollock and a Special J

MORFIT V. PRICE AND CO.

In this case Dr. Campbell Morfit claimed from the defen Charles Price & Co., the well-known oil refiners and candle m damages for breach of an agreement dated February 8, 1893, which the plaintiff granted to the defendants the exclusive right his process for refining cottonseed oil in consideration of their him a certain royalty. The defendants bound themselves to gi process a month's trial, with the following proviso:—"That no plant than at present in use in Messrs. Price & Co.'s works be rec or only to such an extent as they might think advisable." Fu the agreement contained a clause that it was entered into up express condition that the cost of refining by the plaintiff's p should not exceed 2s. per ton of oil over and above the cost ducing the defendants' oil known as the Maltese Cross brand. plaintiff handed to the defendants upon the completion of the ment a manuscript book, detailing the process and the ingr used; but they had refused to work the same, and had thus their part of the agreement. The defendants pleaded that the was not an entirely novel one; further, that it was not patentabl a bleaching agent was used, all of which was contrary to the repr tions made by the plaintiff, and which induced them to enter i contract. They also alleged that the cost of production would the stipulated sum of 2s. per ton over and above the cost of the M Cross brand, and that it would require a material addition to the they already had in use at their works; and, lastly, that by re the premises the plaintiff could not grant the exclusive use, and these grounds, on or about February 8, 1893, they had rescind said agreement and offered to return to the plaintiff his man book.

Mr. Terrell, in the course of his opening, said the plaint Campbell Morfit, was a distinguished chemist. He had spent t

years in the study of the purification of oils and their allied ces, with the result that he claimed to have found a method y cottonseed oil could be refined equal to olive oil. Cotton oil ssed from the seeds of the cotton plant. According to the age eed the quality of and the impurities in the oil were greater or Purging was applied to it, and for this purpose dilute caustic is used, as the result of which a precipitate of impurities formed. it this stage that the plaintiff's process came into operation. He the oil, after it had been separated from the foots (sediment) had formed, with a small amount of very strong caustic soda, er the action caused by this had taken place he added a portion non whiting. These two in combination undoubtedly produced ite reaction, and a precipitate of remaining impurities sank to tom. Bleaching, to accomplish the same purpose, as it was actised, affected the oil chemically, while the defendants' process rmless and produced a light-coloured edible oil, with a sweet reed from any objectionable smell or flavour observed in oils d by processes hitherto tried. Mr. Terrell then proceeded to istory of the negotiations between the plaintiff and the defen- reading letters and other documents that had passed, and l on behalf of his client that he had kept his part of the agree- On the other hand, the defendants, who had every opportunity hem of judging of the value of the discovery before binding lves, as they had done, to give it a month's trial, and if found tory and successful from a commercial point of view to adopt it y the royalty stipulated for, had broken their part and rendered lves liable in damages to the plaintiff.

ence was then given by the plaintiff, who was cross-examined at rable length by Mr. Moulton as to the cost of the process and nt required.

Henry Allen, analytical chemist, and Dr. Otto Hehner, past nt of the Society of Public Analysts, stated that in their opinion the ents in the plaintiff's process were used by him in a manner not attempted, and produced an oil superior to that hitherto obtained otton-seed, and that a practical man could adapt the process at a t than the estimate of the plaintiff. Mr. Meggett, oil refiner, of lso supported the plaintiff's view as to the value of the discovery cost of working it. After Mr. Corkling, a friend of the plaintiff's, om he had intrusted the negotiations with the defendants, had vidence of what he had done in the matter, the plaintiff's case sed.

Moulton, for the defendants, said that inventors often form ex- ted estimates of their inventions and of the use they are when put tual practice. There were two points the defendants made special on for in the agreement they made with the plaintiff. One was t and the other the plant required to give the process a trial. were conditions precedent to the plaintiff receiving any benefit, er hearing the evidence that would be called before them he (Mr. n) should ask them to show by their verdict that the conditions t been kept, and that the plaintiff had not established any case g him to the damages he claimed.

John Dodds, the defendants' confidential manager, was then and, in answer to Mr. Moulton, said that it was impossible with nt at present in use at the defendants' works to put the process ribed in the manuscript book into operation. The cleanliness bed would be impossible with the tanks they had, which, to with, were not round but square, and did not possess smooth rs. The cost of the Maltese Cross brand was 3s. 7d. The ff's process would cost £1. 5s. at least. The witness then gave as to how he arrived at these figures.

ert evidence then followed, to the effect that the process was ible to carry out practically; that absolute cleanliness was al, which was impossible to obtain at defendants' works as at t constructed; and that the cost would be greatly in excess of ipulated for by the plaintiff.

r the speeches of counsel,

learned Judge, in summing up, said that the action was simply recover damages for breach of contract. There was really no of fraud or misconduct involved. The parties had put into the terms of the contract they made, and it was to that they ook. Only when there was doubt as to the meaning of terms a written contract could evidence be heard as to the intentions parties. It was much to be regretted that the plaintiff had not seen nt and machinery in use at the defendants' works before agreeing duce a process to take the place of the one used by the defendants pable of being worked with the existing plant, and to cost not han 2s. per ton. The defendants, directly they had an oppor- of reading the manuscript book of instructions, rescinded the con- nd said in effect they were not going to attempt that which was ible. If they were right in the view they took they were d to a verdict; if they were wrong they must pay damages.

jury retired at 3 p.m., and at 6-45 were discharged without g at a verdict.

SUPREME COURT OF JUDICATURE.

COURT OF APPEAL.

(Before Lord Halsbury and Lords Justices Lopes and Davey.)

G. DEAKIN AND COMPANY V. SALT UNION, LIMITED.

Their lordships have delivered their deferred judgment in the appeal to them by the Salt Union, Limited, from a finding of the official referee which a divisional court had remitted to him for reconsideration in an action brought against the Union by Messrs. G. Deakin and Co. That firm had sold their undertaking to the Union, which covenanted with them as distributors and agents for the Union's productions, to pay them not less commission than was given to other agents. This amounted in the plaintiff's case to 2½ per cent, but they asserted that a firm named Ashton were allowed 5 per cent. They also complained that whereas the Union had covenanted to supply them with a special brand of salt at no higher price than was charged to other customers, they were supplying a Runcorn company, part of whose undertaking they had purchased at fixed lower price than the variations in the market. The Union's answer to the claim was that the additional commission was paid for work and duties differing from those rendered by the plaintiffs; as to the alleged sale to the Runcorn company at a stated price not affected by changes in the market, that part of the consideration for the purchase of that undertaking was that for 30 years the Union should continue to supply the Runcorn works with a special kind of salt at a price irrespective of market variations.

The court having taken time to consider their decision now gave judgment to the effect that the case must go back to the official referee, with the declaration that upon the first part of the case—"commission" – the Union were entitled to judgment, and on the other point—"variation in charge"—that plaintiffs Deakins were so entitled.

DESTRUCTION OF A SOAP AND CANDLE WORKS.

A SERIOUS fire, attended with disastrous results, broke out recently in the soap and candle works of Mr. R. W. Harrison, situate at Gibraltar, Middleton Junction. The works in question consisted of two main buildings, some fifty yards by forty in extent, and were replete with every modern convenience for the efficient working of the soap and candle-making trade. The largest of the two buildings was a three-storey structure, with a frontage to the canal, and was used as a soap manufactory. The lower rooms contained a heavy stock of stores of all descriptions, whilst immediately above was the boiling-room. In this department were the boiling-pans, one of which had a capacity of 25 tons. On this floor were stored a quantity of resin, alkali, and stocks of soap in various stages of manufacture. In the other rooms of this block were boilers and tanks of all descriptions, stocks of manufactured soaps, and a quantity of valuable milling and grinding machinery. The smaller of the main buildings was devoted chiefly to the manufacture of wax and tallow candles, and a section facing the railway was utilised for the purposes of a laboratory, private and general offices. In the cellars was a large plant for the production of both tallow and wax candles, and in addition to the material in process of manufacture, there was a stock consisting of 4,000 dozen tallow candles, a similar number of wax candles, barrels of tallow and wax, bags of candle wick, 200 boxes, a quantity of timber for box making, and other stores. In rooms adjoining were further stocks of candles prepared for export, barrels of wax and oils, the dry soap department, the soft soap department, and large stocks of printed matter. When the Oldham Fire Brigade arrived the fire was burning fiercely. The building was surrounded by numerous stacks of barrels containing tallows and oils, and although attempts were made to remove them, so great was the heat that in many instances the barrels became ignited, and the contents ran on to the burning pile and simply added fuel to the flames. Several vehicles belonging to the firm were damaged by the intense heat, and one lurry, which was under the shed and close to the building, was completely destroyed. The inflammable nature of the contents of the building caused the premises to burn with increasing fierceness, and the immense quantity of water poured on to the structure had little appreciable effect. The terrible heat now began to take effect on the walls, and, fanned by a strong wind, the upper portions of the walls began to sway and totter, and finally to fall in detachments. Fortunately, no one was injured by the falling *débris*. The gable wall, facing the canal, was of strong construction, but this finally collapsed and fell into the canal. At six the fire had practically burnt itself out, and at seven o'clock one of the Oldham engines was withdrawn. The damage is assessed at not less than £20,000, and of this barely one-fourth is covered by insurance.

SALT SHIPMENTS TO THE EAST.—According to the *Liverpool Journal of Commerce*, the salt clearances from Liverpool for Calcutta during the twelve months ended December 31st, 1893, amounted to 168,805 tons, compared with 249,217 tons during the year 1892, a decline of over 80,000 tons, or more than thirty per cent.

THE MERSEY AND IRWELL JOINT COMMITTEE.

THE monthly general meeting of this Committee was held at the offices, Mosley-street, Manchester, on Monday last, Mr. T. W. Killick being in the chair. A letter was read from Sir J. T. Hibbert, expressing his regret at being unavoidably prevented from attending the meeting. The Chief Inspector (Mr. R. A. Tatton) presented his report, embodying the information upon which the decisions of the Consulting Sub-Committee had been framed, and stated therein that concerning pollution from manufactories 45 works came up for the consideration of the Committee, the extension of time granted to them having expired. Of these, 39 were making progress with works for the purification of their waste waters; one firm had failed, and the effluent from another firm has been taken into the local sewers. The remaining four have been considered by the Chemical Sub-Committee, and the course of action to be adopted is contained in their report.

The report of the Consulting Sub-Committee was next taken, and the recommendations of the same were finally adopted as follows:—In the case of Marple an extension of time was granted for one month pending the sanction of the Local Government Board to borrowing powers. Hollingworth was granted two months. The Middleton case was adjourned one month. Ramsbottom was given one month. Droylsden had three months in which to complete works, while Aspull and Mossley were granted one and two months respectively. As nearly all these extensions were necessitated by the unavoidable delay, caused while waiting for the decisions of the Local Government Board, it was decided that the Clerk be instructed to write requesting that the Board will be good enough to inform the Joint Committee as to the position of the sewage schemes of the local authorities in the Watershed, which are at present before the Local Government Board.

POLLUTION IN DERBYSHIRE.

The Sub-Committee having considered the position of the authorities in Derbyshire who are causing pollution to the streams within the jurisdiction of the Joint Committee, reported as follows with reference thereto:—

Glossop Corporation.—This authority appears to be making very unsatisfactory progress towards the treatment of their sewage, and the Sub-Committee therefore recommend that the Clerk be instructed to issue a summons against them forthwith for offences against Part II, Sec. 3, of "The Rivers Pollution Prevention Act, 1876."

New Mills Local Board.—This authority is in a somewhat similar position to Glossop, and the Sub-Committee recommend that proceedings be taken in this case also.

Hayfield R.S.A., Glossop R.S.A., and Chapel-en-le-Frith R.SA.—These three authorities appear to be taking *bona-fide* steps towards the construction of works for the treatment of their sewage. The Sub-Committee therefore recommend that these cases be adjourned for three months.

In regard to the Bury Corporation Bill it was decided to leave the Clerk with optional power to petition, if it was found, in his opinion, under certain circumstances, desirable to do so. Mr. Brierley (Bury), stated that the contract for the intercepting sewer had been let. A communication was also read from the Manchester Town Clerk in connection with the Audenshaw and Manchester prosecutions, and after some discussion it was decided to take no action on the letter, but to allow the proceedings to go on.

The Clerk (Mr. Hulton) presented a return of the amounts received in the way of fines from the various local authorities and manufacturers against whom proceedings had been taken. The amounts varied from 2s. to £36., and reached a total of £59. 1s. The expenses entailed in getting this sum amounted to about £200. The Clerk also made a statement in reference to the question of costs, which had been put to the Local Government Board, and though the reply was not of a very satisfactory nature, it gave promise of the matter being more definitely dealt with at a future date.

THE CHEMICAL SUB-COMMITTEE

reported as follows upon the four manufacturers who, out of the 45 cases which came up for consideration, had not made satisfactory progress:—

J. W. Marshall, Bolton.—This manufacturer had done nothing since he appeared before the Committee on the 6th November last, and the Sub-Committee therefore recommended that application be made to the Local Government Board for leave to take proceedings against him; but owing to a technical difficulty of the law it was finally decided to adjourn this case for one month.

T. Wilkinson, Little Lever.—This manufacturer had put down some small tanks, which were inefficient. The Committee decided that an extension of time for one month be allowed, and that he be informed that at the expiration of that time proceedings will be taken against him in the event of his failing to have satisfactory works in operation.

Bibby and Baron.—This firm had made no further adva made representations in expatiation of their conduct to a me the Committee. After discussion the case was adjourned one and instructions given for a letter to be sent intimating that must make application to the Committee if they wished to m explanation about delays and such matters, as no account c taken of any information otherwise received.

An extension of one month was given W. R. Ashworth, W subject to proceedings if better progress is not made in the mea

E. Leach, Bamford Brothers, John Stott Brothers—Mr. having reported that these firms have now come to an agreeme each other respecting the treatment of their effluent, the Co decided that the consideration of their position be further ad for one month.

Jowett, Waterhouse and Co.—This firm are sinking a shaft their effluent into a disused mine. The present rate of workir however, cause a delay of several months before the work completed. In the meanwhile, the pollution is going into the It was therefore proposed by Dr. Hewitt, and seconded by Mr. that proceedings be taken.

J. Leach.—This was a case where the settling tanks were ru soon as they became full of solids Mr. Leach appeared bef Committee, and gave an undertaking to have the valve at the of the tank permanently closed within three weeks, and t efficient filtering accommodation.—An extension of one mon granted to the Grove Paper Mill Co.

The meeting then terminated.

The Ship Canal & Chemical Tr

THE SHIP CANAL RATES ON CHEMICALS.

THE Chemical Sub-Committee of the Manchester Cham Commerce, in dealing with this subject in their annual state that in no other trade or industry are freights of greater ance than those dealing with chemicals and similar articles, si cost of carriage not infrequently represents as much as, or mor 50 per cent. of the original value. The mere mention of a few such as iron ores, pyrites, china clay, limestone, oils, artificial m farina and other farinaceous substances; alkalis, magnesia, potash salts, sulphur, alum; minerals, &c., is sufficient to at on cate that there are not a few tons, but hundreds of thousands in question, which might be carried to and from Liverpool by t Canal; and the Committee, in making a few comments on the rates and other matters in connection with the Ship Canal, anxious to state that these are not only not conceived with any intention, but with the view of promoting the interests of t Canal, as well as those of the industries and trades concerned.

The Committee is of opinion that sufficient inducement is not to chemical and other manufacturers and traders to disturb their carrying arrangements in favour of the new waterway, and whi recognising that there already exists a certain advantage to ex and importers from beyond sea, who land their cargo at Manc the Committee regrets to find that for those who would u Canal for carriage to and fro between Liverpool and chester there is a decided disadvantage. The charge Liverpool wharf to the Manchester wharf per Bridgewater Cana most products exactly the same as from the Liverpool railway to the Manchester railway station, whilst the carriers' charge ship" to manufacturers' works or merchants' warehouses, in anc Manchester, are in many instances materially higher than th charges from the railway station to such works or warehouse however wishful the chemical manufacturers and traders of this may be to encourage the traffic of the Canal, it is impossible fo to use the new waterway in view of these facts—at least, for large portion of their goods in transit. Large quantities of impo exports reach and leave Liverpool from and to places from whic are not at present, nor are there likely to be for some time, li steamers coming to Manchester. If merchandise could be loade barges at Liverpool, and brought to Manchester by Canal at a m saving on the railway rates, to compensate for the disadvantages of proper sheds, warehouses, and bad roads near the docks, wi consequent heavier carriers' charges, there is no doubt that a ver traffic would be at once secured to the Ship Canal, which, afraid, it will not get under the present rates. The projected ex of deep water to Hunt's Bank will no doubt improve the positi still, even this improvement will not greatly benefit the trades r to. In this connection it may be pointed out that a certain pres presumably exercised, and no doubt for good reasons, upon thos bring goods to Manchester by water, to use the Bridgewater Ca and from Liverpool, rather than the Ship Canal. If that is s the scales of charges ought to be considerably reduced to the u the Bridgewater Canal.

There are also a good many anomalies and ambiguities in the edule of tolls, of which the following are a few illustrations :—
Alum and sulphate of alumina, worth from £4. to £5. per ton, is rated at 3s., whilst sulphate of potash, worth £9., is rated at 2s.
Aluminoferric, worth £2., is in the same class as acetate of lime, worth £11.
Sulphate of iron, worth 25s., is in the same class as sulphate of ammonia, worth £13 10s.
Nitre cake, worth 2s. 6d., is in the same class as nitrate of soda, worth £9.
Salt cake, worth 30s., is in the same class as sulphate of copper, worth £16.
Soda crystals, worth 50s., is in the same class as caustic soda, worth £10.
Bauxite, worth 20s., is in the same class as cutch, worth £25
China clay, worth 15s., is in the same class as sulphate of potash, worth £9.
Again,—The rate for dye extracts is 7s. per ton ; the rate for dyes is 6s. per ton.
Extract of bark for tanners is 4s. per ton ; extracts for tanners, in casks or boxes, is 3s. per ton.
To take an example—Shumac extract is used by dyers, calico nters, as well as tanners ; but in one instance it pays 7s., in another per ton. Chestnut extract stands in the same anomalous position as s, and several others may be also designated either as dye racts, or as extracts for tanners.
These are only a few instances, but many others might be pointed . There are also several important products not named in the edules, such as tar salts (creosote, naphthaline, &c.).
The Committee has, however, by no means yet exhausted its com-nts, and will take into further consideration the question of tolls at next meeting. Meanwhile a communication has been, and others l be, addressed to the Ship Canal Company, and the Committee feel e that its representations will receive the fullest consideration.

PITCH CARGOES.

Two vessels have been chartered by Messrs. S. W. Royse and mpany, chemical merchants, Albert-square, to take full cargoes of ch from Manchester to South Wales. These are the first cargoes of ch to be shipped from Manchester, and, in fact, it is believed to be first complete outward cargo of one material only.

A STEAMSHIP OWNING ASSOCIATION FOR MANCHESTER.

The opening of the Manchester Ship Canal has brought into minence the absolute necessity—if the Canal is to be made a cess—of the merchant shippers, traders, and manufacturers of nchester and district having an ownership in their midst that is in pathy with and having a common interest in the development of direct Manchester oversea trade. Having this fact in view, srs. W. A. Massey and Co., of 15, Brasennose-street, Manchester, pose forming such an Association. They have a full purview of position, and of what is wanted to open up at least three main k lines of steamers from and to Manchester, say :—(1) To diterranean and Black Sea ; (2) to Bombay, Kurrachee, and ntually Calcutta ; (3) to Brazil and River Plate Ports, working e from there, and in the season from the South American cotton s.

EXPECTED VESSELS BEARING CHEMICALS.

mong the vessels bound for Manchester during the past week there e eight laden with dyewoods, namely :—*Nestfold*, *Christina*, *lle*, *Caesar*, *Messina*, *Argo*, *Sylphide*, and *Eglinton*. The *Ernst* Wilmington also bears a cargo of resin.

HE SPOTTED EGGS WERE "SPOTTED."—At the Thames Police-t, London, last week, an applicant stated that he bought 1,500 off the man whom he wished to summon, for 5s., but when he ed home he found they were putrid. He took them back, but nan refused to return the money or allow anything for them, but ad he broke all of them except 600, and the stench in the shop something fearful.—The Magistrate : Did you examine the eggs e you bought them?—Applicant : No, sir. They are what we "spots," half good and half bad.—The Magistrate : What do you vith these eggs?—Applicant : Sell them to confectioners.—Six red eggs that were not broken applicant took to the vestry and were condemned.—Mr. Mead said he could do nothing in the r. Applicant had no right to buy bad eggs. He, however, ed a summons for the alleged assault, and hoped the vestry would proceedings.

SOCIETY OF CHEMICAL INDUSTRY.

MANCHESTER SECTION.

THE usual monthly meeting of this section was held at the Victoria Hotel, Manchester, on Friday, 2nd inst., at seven p.m., Ivan Levinstein, Esq., presiding. The chairman referred to the resolution passed by the section in December last, concerning the raising of the flash point of mineral oils from 73° to 100°F. The chemical section of the Chamber of Commerce, he said, after carefully considering the question from all points, including the consumers' and manufacturers' aspects, passed a similar resolution. At the same time it had been pointed out to the directors of the Ship Canal that there would be great danger to property about the Ship Canal, if large quantities of petroleum of so low a flash point as 73° were sent to the Salford docks in the summer months, when the temperature might and probably would be above 73°F. In consequence of these resolutions it was much to be regretted that the directors had somehow arrived at an altogether erroneous impression of the import of the said resolutions, and were labouring under the

SERIOUS MISAPPREHENSION

that it was proposed to raise the standard to 100°, only in the case of the oils coming to Manchester ; whereas the actual proposal was for the Government to raise the limit of the flashing point of all oils from 73° to 100° F. He also touched upon the question of tolls for chemicals, advising that the matter should be left to the chemical section of the Chamber of Commerce, and concerning which further information will be found in our columns this week.

Mr. Carpenter also brought a communication before the meeting in connection with the efficiency of plate towers and improvements in the manufacture of sulphuric acid.

Mr. W. Thomson then proceeded to read his paper on "The Protection of Metallic Iron from Corrosion," in which were detailed at length a number of experiments made with paints for preventing rust. Strange to say, one of the best preventives had been found to be red lead, which was an oxidising agent. Other oxides had also been found to give excellent results (*C. T. J.* 343, p. 390), but concerning some of these the author could not give particulars, as they were the subject of pending patents. The experiments dealt with the galvanic action between iron rivets and steel under varying conditions. Also the action of caustic soda upon steel and iron. The author pointed out that the presence of moisture accelerated the corrosive action of air and carbon dioxide, which had little, if any, individual action when quite dry.

Mr. J. C Bell then read a note on the "Estimation of Water in Wood-pulp." He complained chiefly of the unscientific and unsatisfactory use of the term "air-dried," quoting results which showed that almost any figure was obtainable.

He also emphasised the necessity of more consistent methods of analysis for fertilizers and feeding stuffs, especially now that the new Bill dealing with this matter had come into force ; and proposed the appointment of a committee of analysts to deal with the question. He instanced a case where the Manchester Corporation had had seven different analyses made of the same fertilizer, and they all differed, in some estimations the differences being considerable—as much as 7 per cent. The resolution was seconded by Mr. Gerland. In regard to both these questions, Mr. Thos. Tyrer (London), who had entered during the progress of the meeting, and had been accorded a hearty welcome said, touching fertilizers and their analysis, he thought a committee was not wanted. The London Section of the Chamber of Commerce, along with the Manure Manufacturers' Association, had taken the matter up, and Dr. Voelcker had been appointed, and practically was doing just what was now proposed. Further in this case, and also in the case of the estimation of water in wood-pulp, he was of the opinion that the methods of analysis were not of such paramount importance as the sampling. Some years ago his friend, Mr. George E. Davis, had drawn attention to this point, when a somewhat similar discussion had been *courant*, and, speaking as a manufacturer, his experience strengthened this view of the case. After a somewhat desultory discussion, the usual votes of thanks were passed, and the meeting terminated.

SCOTTISH SECTION.

This section met on Tuesday, Feb. 6, in the Philosophical Institution, Edinburgh. Mr. E. C. C. Stanford referred to the resignation of Mr. Chas. A. Fawsitt as chairman of the section, and paid a high tribute to the excellence of his leadership during the period of eighteen months he held office. The duties of the chair had never been more ably discharged. It was to be hoped that in time to come Mr. Fawsitt would again officiate as chairman ; but in view of the forthcoming general meeting of the Society in Edinburgh it was his own (Mr. Fawsitt's) suggestion that he should retire, so that some gentleman of Edinburgh residence might be more fittingly in office during that occasion. The committee had thought fit to record on the minutes the high sense entertained of the services of Mr. Fawsitt, and the regret felt at his

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withdrawal, and he called on the meeting to endorse the same, which was unanimously and cordially done. In Mr. Robert Irvine (chemical director of A B. Fleming and Co.), Mr. Stanford continued, they had secured a successor as chairman, who, he was sure, and they were all sure, would do honour to the section and to the office. Mr. Robert Irvine (Mr Stanford assuming the chair for that purpose), then read a paper in his possession on "The Preparation of Carbon Blacks from Natural Gas in America," by Mr. Godfrey L. Cabot, of Boston, U.S A. The paper first referred to the phenomenon of natural gas in America and to the early conception of it as merely a dangerous nuisance, to be permitted to dissipate itself innocuously in the atmosphere, if possible. But better lights supervened, and not only was the gas regulated for lighting service, but it was discovered as a most valuable raw material for the production of carbon black. Early processes for the collecting of the black were crude, but the latest (of which a diagram was shown) left little to be desired. It consisted of a disc of metal of considerable size, on which the jets of gas played, with connected apparatus for scraping the disc every few minutes, and conveying away the carbon black thus procured. At first the market value of the black was as high as 2½ dols. per lb., but the price cheapened with the perfecting of the process, and fell as low at one time as 3 cents per lb. It was now, however of somewhat higher value, at about 7 cents. It required the burning of 1,000 cubic feet of gas to produce 1 lb of carbon black. The output at first was very small, but had gradually increased, and might now be reckoned at some thousands of pounds daily. One factor against its diffusion as a marketable product was its great bulk relatively to weight. Compression was very difficult, and all but totally prevented its being prepared for exportation to Europe. The percentage of carbon was between 92 and 93 per cent., as a rule, in standard samples. Carbon blacks were used for the manufacture of inks, shoe polish, and several other purposes. The reading of the paper was illustrated by a collection of samples. At the conclusion, Mr. Irvine said that he was not prepared to answer questions relative to Mr. Cabot's interesting description, but he might just say that the carbon black processes, as here sketched, were not at all new, or confined to America. The same path had been so far followed in this country, but we had no natural gas, and town gas, as everybody knew, was so costly as quite to forbid any thought of its employment for the making of such products on a manufacturing scale. A conversation followed, and the thanks of the meeting were awarded to Mr. Irvine and Mr. Cabot.

Trade Notes.

FATAL NAPHTHA EXPLOSION.—At the Glasgow Patent Company's Works, Kinning Park, an explosion occurred recently, injuring three men, one fatally, and destroying a portion of the works. The men were employed in making ship composition paint, which contains resin and naphtha, and a flame got to these ingredients, causing the explosion. The naphtha store close by was endangered, but the flames were prevented from spreading.

THE DISCOVERY OF OIL IN SOMERSET.—It has been found that, contrary to expectations entertained last week (*Chemical Trade Journal* 350, p. 84), the well where petroleum is stated to have been found could not be pumped dry as the flow of water was too great. It was however pumped to within three feet of the bottom, and then Mr. Redwood and subsequently Mr. Topley descended the well, an electric light lamp being used for safety. The first named filtered a considerable quantity of water as it came from the well, his object being to collect sufficient oil for analytical purposes, and, as was previously the case, the indications of oil were more pronounced as the bottom of the well was approached. Mr. Redwood stated that an examination of the well, confirmed the evidence already collected as to the presence of petroleum.

THE PERCENTAGE OF WATER IN BUTTER.—The Stipendiary, in giving his decision in the summonses brought by the Manchester Corporation against certain sellers of Irish butter, stated, after a few premunitory remarks, that on the whole if the analysis of Mr. Harrington had agreed with that of Mr. Estcourt he should have convicted the defendant; but as it did not correspond, but reduced the percentage of water 2 per cent.—and he thought that he should make some allowance for the extraordinary heat of the weather at the time the sample was taken—he had come to the conclusion to dismiss the summons. In the second case the prosecution fortified their evidence very much by calling Professor Long, Sir Charles Cameron (Dublin), and Canon Bagot (Dublin), but there was a still greater discrepancy between the analyses of Mr. Estcourt and Professor Tichborne—the percentage of water being reduced from 21 to 18 per cent., which was mentioned as the standard of Somerset House. He must therefore also dismiss that summons.

ANSWERS TO CORRESPONDENTS.

A. O C. F.—The only work we know of is now in the course of prepa will, it is expected, be out of Press by the end of this year It is hard even a work which specialises, let alone one that treats the matter g

H. J. F —Thanks for notification; it was an error on the part of one of We have rectified the point satisfactorily now, we trust.

B. AND CO.—Yes, the volumes can be had in either form.

J. M.—They have been duly forwarded.

PAPER PULP.—We regret to say the number is out of print.

J. F.—We are obliged for your explanation, but the error would have be one if we had not observed and rectified the same in time.

Market Reports.

THE COPPER MARKET.

Messrs. Harrington and Co., in their fortnightly repo Liverpool, February 1st, 1894, state:—

Chili charters for the second half of January are advised as which with 800 tons for the previous fortnight makes 1,350 t month, against 1,000 tons for the same time last year. 13½d.

Since our last the market for G.O.B.'s and G.M B.'s has bee about 6,800 tons changing hands. Values opened at £41 cash and £42. 7s. 6d three months, and after a slight adv 3d. per ton in cash, gradually declined with frequent reactio 3s. 9d. and £41. 13s. 9d. respectively, closing steady at £4 and £41. 15s. three months

The exports of copper from America to Europe during th weeks of 1894 are reported to be about 7,300 tons.

The total stocks in Liverpool, Swansea, London, and 43 652 tons, against 43,591 tons on the 15th ult., showing of 61 tons for the fortnight. The figures for the previou showed an increase of 846 tons, making an increase for th 907 tons. The stocks include about 1,900 tons of copper so yet delivered to smelters The visible supply for the fortnigh tons, against 47,676 tons on the 15th January, showing a 471 tons. The month's figures show a decrease of 68 tons. of English G M.B.'s in Liverpool remains at 4 tons.

The sales of furnace material comprise—at Liverpool: 28 ore, at 7s. 7½d.; 78 tons Californian ore, at 7s. 9d.; 200 tons ore, 5 per cent., at 6s. 9d.; 150 tons Spanish ore, 15 per c 3d.; 75 tons Cueva de la Mora precipitate, at 8s. 6d.; at Portuguese precipitate, at 8s. 3d. per unit. At Swansea Namaqua ore, at 7s. 10½d. per unit.

WEST OF SCOTLAND CHEMICAL

GLASGOW, T

There is still no sign of mending on the part of general ch which, with the exception perhaps of caustic soda, the dem weak. Bleaching powder as yet maintains value pretty stea weakening of the position of the syndicate is to some ex for as a consequence of the appearance of some new pendent makers.

Mineral oils and paraffins show very little change, the burning oil continuing well up to the average of the season, it. Makers are about to have some sort of informal conferen price of scale for the new season, and by about this time ne result will have been announced. A general impression i will be no change, value being as low as may be already same time almost no likelihood of any rise being sustainable

Sulphate of ammonia has weakened slightly, and cannot be quoted higher than £14. to £14 2s. 6d. at the moment be stated, however, that some of the makers still quote both prompt and forward. On the other hand, some deal true value to stop short at £14 bare.

Chief prices current are:—Soda crystals £2. 7s. 6d. nett, ash £3 17s. 6d. nett, Tyne; white alkali 48/52° £4 nett, Tyne; alum in lump £5. nett, Glasgow; caustic soda £10. 10s., 70/72° £9. 5s, 60/62° £8. 5s., and cream all nett, Liverpool; bleaching powder £7. 15s., n saltcake, 20s.; borax, English refined, £30., and b £37. 10s. nett, Glasgow; bicarbonate of soda, 5-cwt. cask and 1 cwt. casks £6. 15s. nett, Liverpool; bichromat 4½d. nett, for Scotch and English deliveries (for export, f.o.b. Glasgow); bichromate of soda, 3¾d. nett, for Scotch deliveries (for export, 3½d. nett, f.o.b. Glasgow); potash, 8d. less 5%, Liverpool; nitrate of soda, 9s. 6d of ammonia, £14. to £14. 2s. 6d., f.o.b. Leith; salammon second white, £39. and £37. nett, any port; sulphat

£15. 5s., less 5% Liverpool; paraffin scale, hard 1⅞d, and soft 1⅞d. per lb.; paraffin wax 120° semi-refined 2⅜d.; paraffin spirit (naphtha), 4½d. per gallon; paraffin oil, burning, standard No. 1 grade, 5d. at works, for Scotch buyers (English sales, ½d to ¾d. lower); ditto (lubricating) 865° £4. 7s. 6d. to £4. 10s., 885° £4. to £5. 10s., and 890/895° £5. to £6. Week's imports of raw sugar at Greenock were 19,000 cwts.

HULL PAINT, OIL, AND COLOUR REPORT.

TUESDAY.

OILS.—The outlook for the year continues highly favourable. The tonnage of the port is in advance of any previous years, being 183,820 tons against 148,325 tons last year, up to date, which during the same twenty years ago, viz, 1874, was 94,063 tons. The principal imports for the year up to date include the following: Linseed 63,164 qrs. against last year during same time 13,992 qrs, rapeseed 16,686 qrs. against 7,380 qrs., cottonseed 29,117 tons against 31,005 tons, olive oil 2,189 casks against 1,336 casks, rape oil 881 casks against 570 casks, oilcakes 3,788 tons against 1,878 tons, tallow 2,692 cwts against 4,996 cwts., turpentine 1,489 brls. against 36 brls. Linseed oil about 5s per ton lower, closing steady with sellers at 19s 4½d naked spot, and February-April at 19s., and May-August 19s. 3d. Casks 17s. 6d. and ordinary barrels 22s. 6d per ton extra. Boiled and refined do., from £1. to £2. per ton extra. Export for the week 1,080 cwts. Refined cotton oil also about 5s. lower. Spot offers at 18s. 10½d. naked, and February-April 19s., and May-August 19s 9d. Crude do., 17s. 3d. spot. Export of refined for the week 5,420 cwts. Turpentine 23s. 6d. per cwt. in barrels. Cod oil £17. 10s. to £19. 10s. per ton. Sod oil from £16 per ton. Pale seal oil £21 per ton. Castor oil, first pressure, 2½d. per lb. Brown wool grease £8. per ton. Engine and cylinder oils from 1s. to 2s. per gallon. Petroleum jelly from 26s per cwt.

CAKES.—Linseed casks: The demand is quiet at previous rates. 95 per cent. pure, £8. 10s. to £8. 12s. 6d per ton; ordinary, £7. to £7. 7s. 6d.; Russians, £7. 15s. to £8 10s; Polish, £8 10s. Cotton cakes quiet, but firm, best makes £5. per ton. Rape cakes: Black Sea, £3 15s. to £3. 17s. 6d.; East India, £4. 12s. 6d. Feeding cakes, £5. 5s per ton.

PAINTS.—Business continues, upon the whole, good. Some manufacturers, though heavily handicapped during last year, show exceedingly satisfactory results upon the years' trading. Oxide of iron from £9 to £18 per ton; oxide of zinc paint, £22. per ton; Venetian red, dry, in casks free, from £6. to £10. per ton; lime blue from 16s per cwt. White and red leads unchanged. Ready mixed paints in tins of 1, 2, 4, and 7 lb tins from £26 per ton. Oak varnish from 5s 6d. per gallon. Common black varnish, £5. 10s. per ton in barrels free.

TYNE CHEMICAL REPORT.

TUESDAY.

The Chemical trade is quiet, though there is rather more inquiry for forward. Prices remain unaltered. Bleach, £7. 10s. per ton. 76/77% caustic, scarce and in demand at £10. 15s. to £11. Sulphur dull at £4. 2s. 6d. per ton.

Bleaching Powder, softs, £7. 10s. per ton, nett; hards, £7. 15s per ton, nett; caustic soda, 76/77%, £10. 15s. per ton, nett; do., 70%, £9. 5s. per ton, nett; recovered sulphur, 2cwt. bags, £4. 2s. 6d. per ton, nett; soda ash, 48%, £3. 15s. per ton, nett; do., 52%, £4. 2s. 6d. per ton, nett; do, 56%, £4. 10s. per ton, nett; alkali, 36%, £3 per ton, nett; white alkali, 48%, £4. 10s per ton, nett; do, 50%, £4 15s. per ton, nett; do., 52%, £5. per ton, nett; hyposulphite of soda, 5-7 cwt. casks, £5. per ton; do., 1 cwt. kegs, £5. 10s. per ton, nett; silicate of soda, 75° Tw., £2. 15s. per ton, nett; do., 100° Tw., £3. per ton, nett; do., 140° Tw., £3. 17s. 6d. per ton, nett; soda crystals, casks, £2. per ton gross weight; do., 2 cwt. bags, £2. 0s. 0d. per ton, nett; chlorate of potash, 8½d. per lb., less 6%; pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £4 2s. 6d. per ton, nett; blanc fixe, £7. 10s. per ton, nett; chloride of barium, £7. 10s. per ton, nett; carbonate of alumina, £28. 15s. per ton, nett; aluminate of soda, £33. 15s. per ton, nett; in 5 ton lots, £28. 10s. per ton, nett.

South Durham Salt.—There is no alteration in the price, there is a steady demand at 9s. 3d. to 9s 6d. per ton f.o.b. Tees.

Coals.—The projected combination of colliery owners working gas coals in Durham seems likely to become an accomplished fact, the object being to keep price up to consumers to a minimum of say roughly from 7s. 3d. to 8s. per ton, free on board. It remains to be seen how far the combination will have force and how long it will last. Prices to-day are as follows:—Gas coal, 7s. 6d. to 8s. per ton; best Northumbrian steam, 11s. 6d. per ton; small steam, 3s. 9d. to 4s. per ton; bunker coal, 7s. 6d. to 7s. 9d. per ton; coke, easier, 14s. 6d. to 15s. per ton.

REPORT ON MANURE MATERIAL.

During the week a fair amount of business has been doing at full prices. There are sellers of 75/80% Florida rock at 8¾d. per unit, c. f. & i. to good United Kingdom ports, but buyers do not seem to find much inducement to purchase at this price. For the Continent there are buyers at 8¾d. per unit, and for the Baltic at 9d. per unit. The situation as regards South Carolina and Peace River rocks remains unaltered. There is a moderate amount of business doing in Continental descriptions. In the absence of cargoes of River Plate bones offering afloat, we do not hear of any business in that position, but it is understood that for spring shipment, transactions have taken place at full prices. Limits of £4. 12s. 6d. for prompt or early shipment which have been out for some time, have not led to business. We do not hear of any transactions in crushed Kurrachee bones for United Kingdom, but for the Continent, summer shipment, £4. 18s 9d. is being paid. East Indian bone meal, on spot, is in very small supply, and is held for £5. 5s per ton. For January-February, steamer shipment, £5 3s. 9d. per ton required, and for February-March £5. 2s 6d., ex quay, Liverpool. Mediterranean bones, afloat or for prompt shipment, offer at £4. 15s. per ton, ex quay Liverpool. The market for nitrate of soda is firm. On spot 9s. 4¼d. for good and 9s. 6d. for refined quality, lowest. Due cargoes are worth 9s. 2¼d. to 9s. 3¾d., according to size and test. Sales of River Plate Tanking have been made at 10s. per unit of ammonia and 1s. per unit of phosphate of lime per ton, to arrive, and there are still sellers at the price. Nothing reported in miscellaneous material.

MISCELLANEOUS CHEMICAL MARKET.

There is still a brisk market for all products of the alkali trade, and all the works are very fully engaged with orders. In bleaching powder the pressure owing to recent stoppage of works has been overcome and the price has receded to its old level of £7. 10s. nett, f.o.r., maker's works—contracts over 1894 being still possible at £7. 5s. nett. Soda ash is perhaps the least satisfactory article from makers' point of view, as the large output now of the several ammonia soda works is ample to cover all demands, and price of 58% alkali is ruling at £3. 12s. 6d. bags, and £3. 17s. 6d. casks, f.o.r., makers' works. Other grades of soda ash, Leblanc make, sell in limited quantity at 1 1/16d. per degree, f.o.b. Refined ash, 1⅛d. Soda crystals continue flat. Caustic soda unchanged. Current prices are:—f.o.b. Tyne, 77%, £11. per ton; f.o.b Liverpool, 74%, £10. 5s.; 70%, £9. 5s.; 60%, £8. 5s.; cream, 60%, £8. per ton, 10-ton lots and upwards. The price for bicarbonate of soda is maintained by makers' agreement, at £6. 12s. 6d., kegs f.o.b. For chlorate of potash, makers' spot quotation is 8d. per lb., but there are re-sellers at 7¾d to 7⅞d. For forward deliveries 7½d. to 7⅝d. In recovered sulphur there is no improvement in price. Vitriol and muriatic acids are in fair request and without any material change in value. For sulphate of copper there is good inquiry. For potash, caustic and carbonate the demand is well sustained in all quarters and prices are firm. Brown acetate of lime is steady again at £6 10s per ton in usual districts of consumption. Acetate of soda still weak, owing to stocks. In acetic acids, quotations have a slightly lower tendency. Prussiate of potash firm in price and good in demand at 10½d. to 10¾d., according to quantity. Carbolic acid crystals are rather firmer at 6½d. for 39/40 s in quantity. White powdered arsenic remains very scarce, and price firm at £14. nett, Garston, London, etc. Zinc chloride is having a fairly free sale in the textile districts, and upon the whole there is a fairly good demand for chemicals for the dyeing, calico printing and kindred trades.

LIVERPOOL OIL AND COLOUR MARKET.

WEDNESDAY.

OILS.—Palm oil is easier, but is quiet at the decline. Some sales of soft oils have been made at £22. 10s., which is about all the business doing. Olive is practically without alteration in regard to prices. The demand is somewhat feeble. Linseed keeps at last week's quotation of 20s. 9d. to 21s. 6d. per cwt. in export casks for Liverpool makes, but inquiries are few and the business done has been next to nothing. Cotton seed, owing to scarcity, commands good prices, Liverpool refined being quoted 20s. 9d. to 22s. per cwt., but is very slow of sale at present currencies. Castor oil is quiet, but with a fairly satisfactory demand for good seconds Calcutta at 2⅜d. to 2 7/16d. per lb. First pressure French is offering at 2 5/16d. to 2⅜d. per lb. Tallow keeps scarce and values unaltered, though in a measure nominal. Resin is moving more freely in all grades, and is on the whole steady. Spirits of turpentine continue firm, new arrivals have been sold at 23s. per cwt. during the week, and 23s. 6d. is now the ruling value. Petroleum is a shade easier at 4⅛d. to 5½d. for American according to quality, and 3½d. to 3⅝d. per gallon for Russian refined.

COLOURS are steady without alteration in prices. Ochres: Oxfordshire, common, £10., medium, £12., best, £15.; Derbyshire, common, 40s.; medium, 50s., best, 60s.; Welsh, best, 70s., seconds, 50s., and common, 18s.; Irish, Devonshire, 40s. to 45s.; French, J.C., 55s. to 60s.; M.C., 65s. to 67s. 6d. Umber: Turkish quiet; Devonshire, 50s. to 55s. White lead, red lead, and oxide of zinc unchanged. Venetian red, £6. 10s. to £10. Cobalt: Prepared oxide, 9s. 9d.; black, 9s.; blue, 6s. Zaffres: No. 1, 3s. 6d.; No. 2, 2s. 6d. Oxide of iron: Common, £6.; medium, £10.; finest, £20. Zinc oxide, £23. to £25.

TAR AND AMMONIA PRODUCTS.

Benzol keeps depressed and on the downward incline, 90's being still obtainable at 1s. 3d. The position of 50/90's, however, is unaltered, and price continues at 1s. 5d. Anthracene, of both qualities, shows no alteration in value. Solvent naphtha has not changed since last week, and 1s. 3d. again represents value to-day, while crude naphtha, 30%, is worth 8½d. Crude carbolic acid, 60%, is quoted 1s. 7½d. to 1s. 8d., but the latter figure is nearer the mark. The shadow of a coming decline which overcast pitch last week has been followed by the reality, and 28s. 6d. will now purchase for f.o.b. East coast.

During the week an easier feeling has developed in sulphate of ammonia, and every effort is being made to disturb the market so as to effect a permanent reduction. These movements are further instigated by the desire to satisfy the expectations of an easier market, entertained by Continental buyers. Makers, however, have just experienced the the good resulting from caution, and do not seem greatly inclined to cheap sales. Quotations are rather erratic, but nearest values are:—for London outside makes £13. 17s. 6d., Hull £13. 15s., Leith £13. 17s. 6d. to £14., and Liverpool £13. 15s.

THE METAL MARKET.

LONDON, WEDNESDAY.—Pig iron easier: Scotch warrants closed at 43s. 3½d., Middlesbrough 35s. 6d. cash, and hematite 45s. 2½d. Copper, dull: Chili bars, G.O.B.'s and G.M.B.'s, closed at £41. 2s. 6d. to £41. 7s. 6d. cash, and £41. 11s. 3d. to £41. 16s. 3d. three months. Tin, quiet: Straits closed at £70. 12s. 6d. to £71. 2s. 6d. cash, and £71. 7s. 6d. to £71. 17s. 6d. three months; Australian, £71. English ingots, £75. to £75. 10s. Lead, firmer: Spanish, £9. 3s. 9d. to £9 5s.; English, £9. 5s. to £9. 7s. 6d. Silesian spelter ordinary, £15. 17s. 6d. Nickel, 1s. 8½d. Antimony, £37. Quicksilver quiet at £5. 17s. 6d. *Copper shares* steady: Cape, 1⅜ to 1½; Copiapo, 1$\frac{11}{16}$ to 1$\frac{13}{16}$. Libiola, 3⅜ to 3½. Mason and Barry, 2$\frac{3}{16}$ to 2$\frac{7}{16}$. Rio Tinto, 14¼ to 14⅜. Tharsis, 4¾ to 5.

New Companies.

Fletcher Brothers Limited. CAPITAL £33,000. in £10. shares. This company has been formed to take over the business of bleachers and dyers now carried on at Halifax under the style of Fletcher Bros. The subscribers to the memorandum of association are:—B. L. Fletcher, 4, Park-road, Halifax, dyer; E. Fletcher, Park House, Halifax, dyer; S Broadbent, Halifax, traveller; J. H. Bolton, Halifax, cashier; H. A. Fletcher, Halifax, married woman; E. Fletcher, 4, Park-road, Halifax, married woman; A. Fletcher, 4, Park-road, Halifax, married woman.

Plastic Marble Company Limited. CAPITAL £30,000. in £1. shares. This company has been formed to carry on the business of manufacturers and dealers in artificial marble or stone, etc. The subscribers to the memorandum of association are:—S. F. Nicholls, 189, Streatham-road, London, S.W., clerk; W. P. Tomes, 17, Devonshire Chambers, London, E.C., accountant; H. Ainsworth, 75, Crampton-street, London, S.E., clerk; J. Johnson, 90, Corrance-road, J S.W., managing clerk; F. J. Ashby, 99, Osborne-road, Lon manager; C. Luff, Arthur's Bridge-road, Woking, clerk; A man, 2, Cumberland-terrace, London, W.C., solicitor.

Portable Furnace and Patents Company Limited. £5,000. in £1. shares. This company has been formed to certain interests in the businesses now carried on under the the Portable Oil Furnace Co. and Shephard & Co., toget certain patents.

The Patent List.

This list is compiled from Official sources in the M Technical Laboratory, under the immediate supervi George E. Davis and Alfred R. Davis, who report profe upon the value of Chemical Patents.

APPLICATIONS FOR ENGLISH LETTERS PATE

Improvements in Electrolysis. E. Andreoli. 1,356. January 22.
Treating Wood-Wool to Diminish its Combustibility. A. G. 1,364. January 22.
Improvements in Iron Compounds for Use in Precipitating I. Levinstein. 1,415. January 23.
Production of Zinc Compounds Suitable for Pigments. J. P. A. J. Ash. 1,418. January 23.
Manufacture of Portland Cement. A. McAra. 1,427. January 23.
New Compound of Sodium Sulphite. G. S. Johnson. 1,442. Jan
Improved Apparatus for Reciprocating Gold and Silver Or Cyanide Solutions. A. H. Bell and C. Carter. 1,472. Jan. 23.
Flexible Metallic Tubing O. Imray. 1,476. Jan. 23.
Carbonizing Wood to Obtain Charcoal, and Utilizing the Produc Carbonization. T. H. Jones. 1,485. Jan. 23
Manufacture of Fuel and Apparatus Therefor. W. B. Hartridg Jan. 23.
Obtaining Gas from Mineral Oils. J. Galletly and H. Arnot Jan. 23.
Improvements in the Manufacture of Bleaching Powder, and A Therefor. T. Houghton and W. Shield. 1,572. Jan. 24.
Improved Sewage Treating Apparatus. W. D. Scott-Moncrie Jan. 24.
Separating Magnesia Compounds from Waters Containing th M. N. D'Andria. 1,637. Jan. 25.
Apparatus for the Purification of Coal Gas, Etc. C. C. Walke Jan. 25.
Sewage Filters. W. Ramsbottom. 1,703. Jan. 26.
Improved Explosive. R. H. Punshon. 1,722. Jan. 26.
Improvements in Soap. T. F. Alten. 1,760 Jan. 26.
Improvements in the Purification of Water. C Salzberger. 1,762.
Extraction of Oil or Grease. J. C. W. Stanley. 1,764. Jan. 26.
Manufacture of Portland Cement and Apparatus Therefor. H. W 1,818 Jan 27.
Patent Fuel. H. J. Reid. 1,833. Jan. 27.

Gazette Notices.

PARTNERSHIPS DISSOLVED.

A. G. GREEN, C. F. CROSS, AND E. J. BEVAN, patentees of the Diazo Pho Process, New Court, Lincoln's Inn, London, W.C., under the style of t type Co., as far as regards A. G. Green.
W. CROWTHER AND J. CROWTHER, dyers, Saville Town near Dewsbury, style of Benjamin Crowther and Sons.
W. D. DUGDALE AND C. F. D. SPERLING HAMWORTHY, Poole, manufa Ultramarine Polishing Paste and Blacking, under the style of th marine Manufacturing Co.
J. HARGREAVES AND T. ROBINSON, patentees, Widnes, Lancashire, under of Hargraves and Robinson.

BANKRUPTCY ACTS, 1883 and 1890.

Receiving Order.

CRABB, GEORGE THOMAS BURGESS, Southampton, oil and colour merchant

Adjudications.

MITCHELL, JONAS, Leeds, late oil merchant, now oil commission agent.
MOORE, ROBERT, Backbarrow Mills, near Ulverston, woollen manufact dyer.
CRABB, GEORGE THOMAS BURGESS, Southampton, oil and colour merchant.

IMPORTS OF CHEMICAL PRODUCTS

AT

THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending January 27th.

Acetate of Lime—

U. States,	153 pkgs.	Lister & Biggs

Acetic Acid—

Holland,	100 pkgs.	J. Owen
,,	62	A. & M. Zimmermann

Acetone—

Holland,	2 drs.	Beresford & Co.
,,	2 pkgs.	T. Palmer

Alkali—

Germany,	11 pkgs.	L. & I. D. Jt Co.
France,	110	Amati & Harrison

Aluminium—

Belgium,	10 c.	Major & Field

Ammonia (Liquid)—

Germany,	5 pkgs.	F. Boehm

Antimony—

Germany,	204 c.	H. Lambert

Antimony Ore—

Sydney,	55 t.	Laughland, Mackay & Co.
,,	3	Harold Brs.
,,	22	L. & I. D. Jt Co.
Queensland,	1	Johnson, Matthey, & Co.
France,	41	Laughland, Mackay, & Co.
Sydney,	64	H. Bath & Son
France,	52	Vivian, Younger, & Co.
Queensland,	12	

Arsenic—

Germany,	20 pkgs.	T.
,,	20	G. Bo

Asbestos—

Italy,	£85	Boy. & Nich
Cape,	240	I. & I. D
Belgium,	12	T.
Holland,	8	

Barytes—
Belgium, 7 cks. O'Hara & Hoar
" 82 20 brls. J. L. Lyon & Co.
" 117 W. Harrison & Co.
" 12 A. Zumbeck & Co.
" 59 Magee, Taylor, & Co.
" 59 brls. "
" 200 bgs. Leach & Co.
Germany, 116 cks. W. Harrison & Co.
" 19 P. Jantzen
" 25 J. Kitchin, Ld.
Belgium, 20 brls. D. C. Thomas & Sons
" 50 bgs. Arnati & Harrison

Camphor—
Germany, 277 pkgs. H. A. Litchfield & Co.
Hong Kong, 146 W. M. Smith & Sons
Germany, 1 brl. L. & I. D. Jt. Co.
" 458 cs. R. Warner & Co., Ltd.
" 170 Lewis & Peat
" 7 W. M. Smith & Sons
" 102 Eastwood & Holt

Caoutchouc—
Cape, 70 c. L. & I. D. Jt. Co.
E. Indies, 25 "
Rangoon, 650 "
Madagascar, 45 "
Zanzibar, 51 "
" 3 M. M. de France
Mauritius, 1,482 Hammond & Co.
Madagascar, 59 "
" 167 Kleinwort, Sons, & Co.
E. Indies, 44 Prop. Bull Wf.
France, 20 H. Johnson & Son
" 12 Flageollet & Co.
E. Indies, 15 Wrightson & Son
Zanzibar, 25 "
France. 39 Stiebel Brs.

Castor Oil—
E. Indies, 150 cs. Anderson, Weber, & Smith
France, 10 brls. Beresford & Co.
" 60 Windschuegl & Co.
" 60 J. T. Morton
" 15 cs. Lucas & Spencer's Wf., Ld.
" 2 W. G. Frith & Co.
Belgium, 30 Burrell & Co.

Caustic Potash—
France, 20 c. E. W. Carling & Co.
Belgium, 80 Petri Brs.

Chemicals (*otherwise undescribed*)
Germany, £9 L. & I. D. Jt. Co.
" 20 City Coml. Wf.
" 51 pkgs. T. H. Lee
" 1 J. Barber & Co.
" 66 A. & M. Zimmermann
Norway, 25 A. Hughes
Belgium, £10 T. Palmer
Holland, 50 J. Owen

Cobalt Ore—
Sydney, 2 t. L. & I. D. Jt. Co.

Cream of Tartar—
Spain, 3 pkgs. B. & F. Wf. Co., Ltd.
" 10 C. Christophersen & Co.
France, 8 Allan Brs., & Co.
" 60 Finlay & Co.
" 5 14 cks. W. C. Bacon & Co.
" 4 B. & F. Wf. Co., Ltd.
Italy, 20 Howards & Sons

Dextrine—
Germany, 6 pkgs. L. & I. D. Jt. Co.
" 25 M. D. Co.

Dyestuffs—
Annatto
U. States, 2 pkgs. Park, Macfadyen, & Co.
Ceylon, 37 Hoare, Wilson, & Co.
Argols
Italy, 49 pkgs. Thames S. T. & L. Co., Ld.
Austria, 40 "
Italy, 424 B. Jacob & Sons
Cochineal
Canaries, 12 pkgs. W. M. Smith & Sons
" 25 Marshall & French
" 10 Johnson, Hicks, & Co.
Catch
Rangoon, 1,810 pkgs. A. Howden & Co.
" 500 Anderson, Weber & Smith
" 1,000 Leach & Co.
" 400 Wallace Brs.
" 100 L. & I. D. Jt. Co.
Rangoon, 100 Middleton's S. S. Wf. Co.
Extracts
Belgium, 105 pkgs. T. H. Lee
" 160 L. J. Levinstein & Sons
" 10 Leach & Co
" 5 T. Palmer
France, 575 Boutcher, Mortimore, & Co.
" 130 L. J. Levinstein & Sons
Denmark, 2 cks. Bailey & Leetham
" 6 R. J. Fullwood & Bland
Fustic
Minatillan, 80 t G. Shadbolt Son. & Co.
—— 70 A. Hagan
Gambier
E. Indies, 529 pkgs. E. Boustead & Co.
" 374 J. Greig,
" 347 Brown & Elmslie
" 3,782 L. & I. D. Jt Co.
Indigo
E. Indies, 170 chts. L. & I. D. Jt. Co.
" 226 Parsons & Keith
" 19 Ralli Brs.
" 18 . Dipnall & Co.
" 5 J. Kenyon & Sons
" 57 Begg, Dunlop, & Co.
" 6 Ripley, Roberts, & Co.
" 31 Croysdale & Co.
" 30 F. Huth & Co.
" 49 F. Barlow & Bro.
" 56 Elkan & Co.
" 44 Darling Brs.
" 1 P. & O. Co.
" 12 London & Hanseatic Bank
" 55 Wallace Brs.
" 49 F. W. Heilgers & Co.
" 10 Thommasset & Co.
" 10 Patry & Pasteur
" 20 J. Forsey
" 14 Stansbury & Co.
Myrabolams
E. Indies, 373 pkgs. Sorabshah & Co.
" 1,240 L. & I. D. Jt. Co.
" 250 Beresford & Cc.
" 228 Clarke & Smith
Saffron
France, 1 pkge. Stockwell & Co.
Sumac
Italy, 300 pkgs. Union L. Co., Ltd.
Tanner's Bark
Adelaide, 10 t. Baxter & Hoare
Belgium, 36 Leach & Co.
Turmeric
E. Indies, 100 pkgs. Anderson, Weber, & Smith

Farina—
Germany, 50 pkgs. Hernu, Peron, & Co.
" 224 W. E. Palmer
Holland, 200 C. Tennant, Sons, & Co.

Glucose—
Germany, 25 pkgs. 149 c. L. Sutro & Co., Ltd.
U. States, 500 2,753 c. "
" 1,016 1,083 Beck & Pollitzer
" 50 275 C. Southwell & Co.
" 295 1,650 T. M Duche & Sons
" 400 2,200 Prop. Chmbln.'s Wf.
" 50 300 W. Balchin
" 130 269 C. F. Webster & Co.
" 50 52 Pickford & Co.
" 200 200 L. & I. D. Jt. Co.
France, 100 100 L. Norman & Co., Ltd.
Germany, 4 24 Dutrulle, Solomons, & Co.

Guano—
Sweden, 50 t. Anglo-Swedish Co.

Manganese—
Japan, 98 t. J. Greig
Sydney, 270 Harrold Brs
Japan, 51 Julius & Co.
Australia, 220 Harrold Brs.
Adelaide, 500 "

Manure—
France, 146 t. J. Burnett & Sons
Peru, 1,800 Anglo-Contl. G. Wks.
Gibraltar, 5 Fox, Foy, & Co.

Methyl Alcohol—
Belgium, 12 dms. Stein Brs.

Mica—
E. Indies, £156 W. M Smith & Sons

Ochre—
Holland, 31 pkgs. Phillipps & Graves
U. States, 120 Page, Son, & East
France, 10 brls. Williams, Torrey, & Co.
Italy, 4 Burrell & Co.

Paraffin Wax—
Rangoon, 495 cs. H. Hill & Sons
U. States, 100 brls. "
" 4,171 pkgs. J. H. Usmar & Co.

Phosphate Rock—
Belgium, 14 t. H. & E. Albert

Pitch—
France, 175 cks. H. Hill & Sons

Plumbago—
Holland, 37 cks. B. Gallaway
Germany, 214 cs. Prop. Scott's Wf.
Ceylon, 100 brls. Beresford & Co.
" 70 Doulton & Co.
" 113 R. G. Hall & Co.
Germany, 21 cs. T. H. Lee

Potash—
France, 105 c. Petri Brs.

Potassium Bicarbonate—
Holland, 49 cks. A. & M. Zimmermann

Potassium Carbonate—
France, 100 c. Charles & Fox
" 45 Spies Brs. & Co.
" 165 J. A. Reid

Potassium Prussiate—
Belgium, 4 cks. Magee, Taylor, & Co.

Potassium Sulphate—
France, 21 pkgs. Mead, Son, & Co.

Pumice Stone—
Italy, 1 t. White Brs.
" 5 Union L. Co., Ltd.

Pyrites—
Spain, 910 t. C. Tennant, Sons, & Co.
" 1,318 Anderson, Anderson, & Co.
Holland, 130 G. J. Steward

Rosin—
U.S., 8,400 brls. Moore & Hole
" 1,624 Produce Brokers' Co.

Sodium Acetate—
Belgium, 174 pkgs. Arnati & Harrison

Starch—
Belgium, 496 pkgs. F. Rosenthall & Co.
" 346 T. H. Lee
" 420 Prop. Scott's Wf.
Holland, 130 J. Barber & Co.
" 1,570 Little & Johnston
" 31 Phillipps & Graves
" 200 Ohlenschlager Bros.

Stearine—
France 80 bgs. Walbaum & Tosetti
Holland. 62 Robinson, Roberts & Co.
Belgium. 91 H. Hill & Sons
" 250 tcs. Price's Candle Co.
U.S., 63 pkgs. W. W. Young

Sulphur—
Italy, 10 t. J. Kitchin. Ld.
" 535 G. Boor & Co.
" 10 F. C. Devon & Co.
" 5 J. Puddy & Co.

Talc—
E. Indies, £660 L. & I. D. Jt. Co.

Tallow and Stearine—
U.S., 120 cks. Allan Bros. & Co.

Tartaric Acid—
Holland, 14 pkgs. Kirkpatrick & Co.
" 8 F. C. Devon & Co.
" 29 B. & F. Wf. Co., Ld.
Italy, 10 Union L. Co., Ltd.

Turpentine—
N. Russia, 104 brls. C. B. Leighton
Savannah, £8,360 H. Funck & Co.

Ultramarine—
Holland, 20 cks. Thames S. T. & L. Co., Ld.
" 2 Phillipps & Graves
" 20 Hernu, Peron & Co.
Belgium, 2 brls. W. Harrison & Co.
Germany, 25 cs. J. Kitchin, Ld.
Belgium, 20 cks. H. Kohnstamm

Varnish—
France, 15 pkgs. Flageollet & Co.
" 15 Suter, Hartmann & Co.

Vermilion—
Germany, 4 cs. Phillipps & Graves

White Lead—
Holland, 50 cks. T. & W. Farmiloe
France, 83 W. Harrison & Co.

Zinc Oxide—
Germany, 75 brls. M. Ashby, Ld.
Holland, 100 "
" 95 cks. Soundy & Sons
U.S., 100 brls. M. Ashby, Ld.

LIVERPOOL.

Week ending January 25th.

Barium Nitrate—
Hamburg, 2 cks.

Barytes—
Hamburg, 2 cks.
Antwerp, 10 100 bgs.

Bone Ash—
Hamburg, 1 bg.

Boracic Acid—
Leghorn, 1 cs. J. Spicer & Sons
" 12 cks. Pickford & Co.
" 50

Borate of Lime—
Hamburg, 726 bgs.
Valparaiso, 203

Borates—
San Francisco, 966 sks.

Borax—
Leghorn, 1 cs. J. Spicer & Sons
Valparaiso, 137 bgs. Duncan, Fox, & Co.

Caoutchouc—
Havre, 1 cs. Cunard S. S. Co., Ld.

Castor Oil—
Genoa, 3 cs. T. Merry & Co.
" 20 Ferris & Co.
Leghorn, 5

Cottonseed Oil—
New York, 410 brls.

Cream of Tartar—
Tarragona, 5 cks. Sachse & Klemm
Bordeaux, 2

Dyestuffs—
Cochineal
Las Palmas, 76 bgs. Sperling & Williams
" 6 G. S. Bruce
" 18 M. L. Spely
" 12 J. M. Creballos
" 10 Kolp & Co.
" 10 Widow Duranty, & Son
" 82 E. R. M'Quie
Teneriffe, 25 Brown Brs. & Co.
" 11
Extracts
New York, 6 crts. A. J. White
Havre, 4 cks. Cunard S. S. Co., Ld
Rouen, 317 Co-op. W'sale Society, Ld.
Fustic
Vera Cruz, 1,373 lgs. R. B Watson & Co.
Tampico, 3,100 ps. Moffat Brs.
Logwood
Laguna de Terminos, 8,022 qtls. E. Brownbill & Co.
Madder
Smyrna, 10 bls.
Orchella
Lisbon, 11 bls. 19 bgs. Edwards Brs.
Shumac
Palermo, 125 bgs. J Kitchen, Ld.
" 250 H. Rooke. Son, & Co.
" 275 50 bls.
Bordeaux, 100
Valonia
Smyrna, 2,850 ktls. Barry Brs.
" 580 Essayan, Shahum, & Co.
" 1,497 1,079 bgs.

Dyestuffs (*otherwise undescribed*)
New York, 30 bxs. W. Bingham
" 10 brls.

Glucose—
New York, 150 brls. D. M. Duche & Son
Baltimore, 250
Hamburg, 75 cks.
New York, 12 pkgs.

Iodine—
Valparaiso, 18 brls. A. Gibbs & Son
" 95 W. & J. Lockett
" 38 F. Huth & Co.
" 28

Limestone—
Antwerp, 2 pkgs.

Manganese Ore—
Oporto, 200 t. Blagden & Prince
Manure—
Valencia, 45 bgs.
Mercury—
Lisbon, 1 bx. R. Singlehurst & Co.
Ochre—
Port Royal, S.C., 1,511 brls.
Bordeaux, 48 cks.
Paint—
Boston, 5 cs. G. Bolts
Phosphate—
Port Royal, S C. 2,000 t.
Charlotte Harbour, 1,150
Treport, 350 t. Phospho Guano Co.
Phosphate Rock—
Punta Gorda, Florida, 2,150 t.
Phosphoric Acid—
Hamburg, 12 cks.
Potash—
Hamburg, 2 dms.
Pyrites—
Huelva, 2,640 t. Matheson & Co.
Saltpetre—
Hamburg, 75 brls. 25 kgs.
Soap—
New York, 1 cs.
Leghorn, 90
Sodium Nitrate—
Iquique, 9,348 bgs. Schintz & Co.
" 20,539 G. C. Dobell & Co.
Starch—
Antwerp, 316 cs. J. T. Fletcher & Co.
Philadelphia, 900 bgs.
Rotterdam, 120 cs.
Stearine—
New York, 10 brls.
Antwerp, 33 bgs.
Sulphur—
Catania, 10 brls. 42 cks. 152 bgs.
Tallow—
New York, 95 hhds.
Baltimore, 140 tcs
Zarate, 253 brls. 158 pps.
Rouen, 140 bgs. Co-op. W'sale Society, Ld.
Constantinople, 2 brls.
New York, 10 tcs. Bell, Sons, & Co.
Tartar—
Bordeaux, 10 cks.
Verdigris—
Bordeaux, 2 cks.
White Lead—
Antwerp, 19 cks.
Zinc Oxide—
Antwerp, 4 brls.
Zinc Skimmings—
Baltimore, 47 brls.

MANCHESTER.

Week ending January 27th.

Acetic Acid—
Antwerp, 20 blns.
Castor Oil—
Antwerp, 23 cs.
Chromium Acetate—
Rotterdam, 10 cks. Wilson, Sons, & Co.
Colours—
Rotterdam, 26 brls. 14 bxs Wilson, Sons, & Co.
" 6 cks.
" 40
Dyestuffs—
Alizarine
Rotterdam, 140 brls. Wilson Sons, & Co.
" 15 2 bxs.
Annatto
Bordeaux, 33 cks.
Nitrate—
Rotterdam, 8 cks.
Pitch—
Rotterdam, 13 cks.
Sodium Nitrate—
Rotterdam, 1 bx.
Starch—
Antwerp, 40 cs.
Zinc Oxide—
Antwerp, 10 brls.

HULL.

Week ending January 27th.

Acetic Acid—
Antwerp, 10 pks. G. Myers
Acid—
Bari, 51 cks. Wilson, Sons, & Co., Ld.
Arsenic—
Hamburg, 6 Wilson, Sons, & Co., Ltd.
Asbestos—
Genoa, 28 pks. Wilson, Sons, & Co., Ld.
Barytes—
Antwerp, 21 cks. Bailey & Leetham
Bremen, 22 Hanger, Watson & Harris
" 22 Blundell, Spence, & Co.
" 103 bgs J. Pyefinch & Co.
Antwerp, 351 pks. Wilson, Sons, & Co., Ltd.
Borax—
Leghorn, 8 cks. Wilson, Sons, & Co., Ld.
Castor Oil—
Leghorn, 27 pks. Wilson, Sons, & Co., Ld.
Genoa, 55 "
Chemicals (*otherwise undescribed*)
Hamburg, 5 cks. 3 pks Wilson, Sons, & Co., Ld
Bremen, 2 pkgs Veltmann & Co.
" 1 ck J. Pyefinch & Co
Dunkirk, 41 pks. Wilson, Sons, & Co., Ld.
Antwerp, 23 cks. "
Colours—
Hamburg, 1 ck. Wilson, Sons, & Co., Ld.
" 14 pks.
Flushing, 33 G. Lawson & Sons
Rotterdam, 3 cs 86 34 cks. "
Rouen, 2
Bremen, 2 cs. 2 Veltmann & Co.
Flushing, 4 85
Rotterdam, 1 ck 33 pks. W. & C. L. Ringrose
Dunkirk, 1 Lavaggi Schiaffano & Co.
Rotterdam, 4 cks Todd & Son
Dextrine—
Hamburg, 10 cs. Wilson, Sons, & Co., Ltd.
Stettin, 100 bgs. "
Dyestuffs—
Alizarine
Rotterdam, 7 cks. W. & C. L. Ringrose
" 31 brls. G. Lawson & Sons
Logwood
Hamburg, 550 pcs. Wilson, Sons, & Co., Ld.
Madder
Rotterdam, 2 cks. Hutchinson & Son
" 2 G. Lawson & Sons
" 1 W. & C. L. Ringrose
" 1 J. Pyefinch & Co.
Myrabolams
Bombay, 6,165 bgs.
Shumac
Palermo, 650 bgs. Wilson. Sons, & Co., Ltd.
" 550
Valonia
Smyrna, 150 bgs.
Farina—
Stettin, 500 bgs. Wilson, Sons, & Co., Ltd.
Ghent, 204 cs. "
Harlingen, 650 bgs.
Glucose—
N York, 150 brls.
Ochre—
Marseilles, 140 pks.
Paint—
New York, 15 cs. Wilson, Sons, & Co.
Plumbago—
Hamburg, 37 cks. Wilson, Sons, & Co., Ld.
Potash—
Antwerp, 10 dms. Wilson, Sons, & Co., Ltd.
Pumice Stone—
Leghorn, 50 pks. Wilson, Sons, & Co., Ld.
Messina, 65 " "
Rosin—
Wilmington, 3,000 brls.
Salt—
Hamburg, 259 bgs.
Saltpetre—
Hamburg, 7 cks. Wilson, Sons, & Co., Ld.
Silica—
Christiania, 4 cs Wilson, Sons, & Co., Ltd.
Soap—
Naples, 70 cs. Wilson, Sons, & Co., Ld.
Marseilles, 3 "
Soda—
Rotterdam, 10 cks W. & C. L. Ringrose
Starch—
Ghent 40 cs Wilson, Sons, & Co., Ld
Bremen, 2,186 Veltmann & Co.
Amsterdam, 40 pks W. & C. L. Ringrose
Rotterdam, 40 cs.
Antwerp, 40
Sulphur—
Catania, 500 pks. Wilson, Sons, & Co., Ld.
" 50 t. 230 bgs.
Tar—
Dunkirk, 5 cs. Wilson, Sons, & Co., Ltd.
Tartar—
Marseilles, 1 ck. Wilson, Sons, & Co., Ld.
Tartaric Acid—
Rotterdam, 3 cks. Hutchinson & Son
" 2 G. Lawson & Sons
Turpentine—
Wilmington, 1,305 brls.
Ultramarine—
Rotterdam, 2 cks. Hanger, Watson & Harris
Bremen, 9 J. Pyefinch & Co.
Varnish—
Hamburg, 4 dms. Wilson, Sons, & Co., Ld.
Christiania, 1 ck. "
Waste Salt—
Hamburg, 306 bgs. Furley & Co.
White Lead—
Antwerp, 60 cks. Bailey & Leetham
Rotterdam, 10 Storry, Witty, & Co.
" 29 Tudor & Sons

GLASGOW.

Week ending February 1st.

Barium Sulphate—
Antwerp, 604 bgs. 44 cks.
Castor Oil—
Antwerp, 147 cks.
Colours—
Rotterdam, 6 bxs. 9 cks. 8 brls. J. Rankine & Son
" 99
Amsterdam, 5
Dextrine—
Hamburg, 3 cks.
Dyestuffs—
Alizarine
Rotterdam, 58 brls. J. Rankine & Son
" 50 pkgs.
Extracts
Nantes, 50 cks.
Philadelphia, 50 brls.
Madder
Rotterdam, 6 cks 1 bx. J. Rankine & Son
Farina—
Delfszyhl, 441 bgs.
Antwerp, 3
Oxalic Acid—
Rotterdam, 6 cks. J. Rankine & Son
Pitch—
Dunkirk, 39 brls.
Potassium Bichromate—
Antwerp, 5 cks.
Pyrites—
Huelva, 1,746 t. Tharsis Co.
Starch—
New York, 300 sks.
Antwerp, 100 cs.
Rotterdam, 68 J. Rankine & Son
Stearine—
Rotterdam, 17 cks. J. Rankine & Son
Tallow—
New York, 2 bxs
Tannin—
Hamburg, 2 cs.
Tartar—
Bordeaux, 4 cks.
Tartar Emetic—
Hamburg, 2 cks. 2 cs.
Waste Salt—
Hamburg, 306 bgs.
White Lead—
Ghent, 9 cks.
Zinc Oxide—
Antwerp, 65 cks.
Zinc Sulphate—
Nantes, 30 cks.

TYNE.

Week ending January 27th.

Alum Earth—
Hamburg, 18 cks. Tyne S. S. Co.
Aluminium—
Antwerp, 1 cs. Tyne S. S. Co.
Barytes—
Antwerp, 25 bgs. Tyne S. S. Co.
Farina—
Hamburg, 20 bgs. Tyne S. S. Co.
Rosin—
Savannah, 4,203 brls.
Tallow—
Sydney, N S.W., 282 cks.
Tartaric Acid—
Rotterdam, 4 cks.
Zinc Oxide—
Antwerp, 20 brls. Tyne S. S. Co.

GOOLE.

Week ending January 24th.

Alkali—
Calais, 3 cks.
Antimony Ore—
Boulogne, 1 ck.
Caoutchouc—
Boulogne, 4 cks.
Dyestuffs—
Alizarine
Rotterdam, 70 pkgs.
Fustic
Hamburg, 1,132 pcs.
Logwood
Laguna, 364 t.
Dyestuffs (*otherwise undescribed*)
Ghent, 2 cks.
Boulogne, 57 15 cs. 6 pkgs.
Farina—
Hamburg, 460 bgs.
Potash—
Antwerp, 12 dms.
Dunkirk, 30 10 cks.
Calais, 14
Rotterdam, 20
Saltpetre—
Antwerp, 85 bgs.
Rotterdam, 100
Hamburg, 69 kgs.
Waste Salt—
Hamburg, 50 cks.
Zinc Oxide—
Antwerp, 20 cks.

GRIMSBY.

Week ending January 27th.

Chemicals (*otherwise undescribed*)
Antwerp, 42 cks.
Hamburg, 26 pkgs.
Zinc Ashes—
Antwerp, 46 cks.

EXPORTS OF CHEMICAL PRODUCTS
OF
THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.
Week ending January 31st.

Acids—
Cape Town, 12 kgs. £45
Mauritius, 10 cbys. 1 cs. 7
Porto Alegre, 47 32
Acid and Potash—
New York, 11 pkgs. £48
Alkali—
M. Video, 1 t. £10
Algoa Bay, 1 13 c. 5
Callao, 10 5
San Juan del Sur, 2 9 19
Acajutla, 1 8
La Libertad, 1 10
New York, 3 30
Alum Sulphate—
Boston, 13 t. 2 c. £63
Aluminous Cake—
Rotterdam, 150 t. 3 c. £300
Ammonia (Liquid)—
Barbadoes, 2 cs. £10
Rotterdam, 20 dms. 32
Ammonium Carbonate—
B. Ayres, 5 cs. £34
New York, 75 cks. 640
Paris, 3 t. 97
Melbourne, 2 20 cs. 97
Boulogne, 1 20
Ammonium Chloride—
Sydney, 1 t. £25
Paris, 4 c. 7
Varna, 5 3 171
Constantinople, 2 10 83
Melbourne, 11 20
B. Ayres, 6 12
Amsterdam, 1 17 70
Ammonium Sulphate—
Cologne, 300 t. £3,937
Mauritius, 250 3,439
Rotterdam, 80 16 c. 1 065
Ghent, 100 1,400
Hamburg, 33 7 450
Arsenic—
Odessa, 1 t. £15
Melbourne, 16 5 c. 229
Bisulphite of Lime—
Calcutta, 2 t. 17 c. £43
Borax—
Rotterdam, 5 cs. 17 cks. £68
Melbourne, 10 kgs. 17
Carbolic Acid—
Sydney, 6 cs. £12
Antwerp, 8 cks. 16 pkgs. 41
Stanley, F.I., 30 dms. 30
Treport, 12 88
Melbourne, 21 cs. 38
E. London, 4 20
Rotterdam, 5 t. 295
Caustic Soda—
Algoa Bay, 5 t. 12 c. £78
E. London, 4 14 105
Christchurch, 2 16 28
Melbourne, 19 2 218
Dunedin, 2 24
Chemicals (*otherwise undescribed*)
Melbourne, 50 kgs. £174
M. Video, 2 cs. 9
Wellington, 12 cks. 18 36
Santos, 2 brls. 21
Reval, 40 t. 1,300
Otago, 6 31
B. Ayres, 1 ck. 25
Citric Acid—
Cape Town, 2 c. £16
Hamburg, 2 t. 10 401
Genoa, 7 53
Marseilles, 1 150
Algoa Bay, 2 15
Libau, 15 117
Reval, 20 kgs 160
Brussels, 10 70
Oporto, 5 cks. 40
Coal Products—
Alizarine
Lisbon, 2 cks. £40
Lyttelton, 3 35
Aniline
New York, 69 brls. £775
Tientsin, 15 cs. 135
Calcutta, 1 62
Aniline Dyes
Adelaide, 1 cs. 6
Calcutta, 1 12
Aniline Oil
Dunkirk, 10 dms. £320
Anthracene
Rotterdam, 48 cks. £400
Benzol
Rotterdam, 48 cks. 20 pnhns. £299
Treport, 12 121
Calais, 40 345
Creosote
St. Malo, 530 cks. £195
Bordeaux, 1,517 895
Naphtha
Treport, 30 brls. £75
Melbourne, 25 dms. 16
Paraffin Wax
Auckland, 3 tks. £126
Pitch
Newport News, 444 bgs. £78
Treport, 50 t. 72
Terneuzen, 800 1,120
Caen, 800 1,150
Varna, 20 brls. 5
Bourgas, 40 11
Port de Bouc, 1,455 2,183
New York, 20 13
Yokohama, 45 45
Nelson, 6 cks. 9
Boston, 400 185
Mauritius, 25 pkgs. 11
Naples, 593 650
Hamburg, 20 12
Auckland, 12 6
Tar
Rouen, 54 brls. £33
Lisbon, 20 25
Bombay, 71 rns 103
Algoa Bay, 200 dms. 7
E. London, 200 6
Boston, 100 45
Tar and Pitch
Natal, 14 brls. £8
Coal Products (*otherwise undes.*)
Cape Town, 8 pkgs. £8
Mauritius, 20 rns. 9
Brisbane, 25 dms. 6
Calais, 2 12 brls. 32
Copperas—
Constantinople, 10 t. 1 c. £16
Copper Sulphate—
Oporto, 11 t. 18 t. £187
Odessa, 5 72
Leghorn, 10 146
Cream of Tartar—
Melbourne, 4 t. £279
Adelaide, 17 c. 67
Auckland, 1 10 126
Lyttelton, 10 35
Dunedin, 1 68
Sydney, 6 15 429
Wellington, 3 10
Melbourne, 1 14 383
Disinfectants—
Sydney, 33 cs. 5 c. £40
Wellington, 6 hhds. 124
Hamburg, 4 7
Bremerhaven, 50 38
Bombay, 400 dms. 188
Rio de Janeiro, 6 9
Melbourne, 10 50 39
Trinidad, 1 t. 3 27
Guano—
Morlaix, 152 t. 11 c. £1,550
Iron Sulphate—
Oporto, 4 t. 19 c. £16
Lead Acetate—
Callao, 2 cks. £6
Manure—
Barbadoes, 38 t. £160
Trinidad, 40 400
Havre, 25 100
Bordeaux, 79 15 c. 288
Malaga, 10 80
Jersey, 100 13 955
Treport, 49 17 300
Boulogne, 1 15 30
Cherbourg, 287 950
Nitrate of Iron—
Melbourne, 1 t. 3 c. £7
Nitric Acid—
Jersey, 28 cbys. £52
Phosphate—
Bluff, 25 t. £61
St. Lucia, 100 250
Melbourne, 25 61
Phosphoric Acid—
Philadelphia, 1 cs. £10
Phosphorus—
B. Ayres, 4 c. £21
Dunedin, 33 cs. 335
Oporto, 1 10
Lisbon, 2 22
Potash—
Trinidad, 3 c. £7
Potash Salts—
Delagoa Bay, 5 t. 4 c. £550
Natal, 6 16 880
Potassium Chlorate—
Melbourne, 1 t. £67
Calcutta, 10 c. 36
B. Ayres, 1 10 105
New York, 10 16 550
Potassium Nitrate—
Algoa Bay, 15 kgs. £17
Potassium Oxalate—
Odessa, 5 c. £10
Potassium Prussiate—
Bombay, 5 c. £25
New York, 32 cks. 360
Saltpetre—
Azores, 8 c. £8
Rio de Janeiro, 1 t. 14 38
Bahia, 9 13 223
Odessa, 1 10 33
Algoa Bay, 9 9
Melbourne, 2 10 55
Sheep Dip—
B. Ayres, 2,030 cs. £4,150
Budapest, 158 pkgs. 86
Auckland 5 t. 250
E. London, 350 dms. 69
Calcutta, 20 12
Invercargill, 3 cs. 11
Geraldton, 9 c. 21
Dunedin, 12 38
Falklands, 7 cks. 400 345
Sheep Dip and Disinfectants—
Cape Town, 233 pkgs. £130
Soda—
Adelaide, 2 t. £12
Soda Crystals—
Singapore, 1 t. £5
Sodium Bicarbonate—
Montego Bay, 1 t. £8
Algoa Bay, 1 16
Melbourne, 10 71
Nelson, 1 8
Sodium Carbonate—
Madras, 5 c. £8
Sulphate of Lime—
Cape Town, 1 t. 10 c. £36
Sulphur—
Natal, 50 cs. £9
Algoa Bay, 2 t. 5 c. 25 kgs. 33
E. London, 8 19 120 pkgs. 150
Lisbon, 200 brls. 143
Limon, 34 60
Sulphuric Acid—
Santos, 20 cs. £25
Lisbon, 1 t. 9
Melbourne, 4 9
Superphosphate—
Cherbourg, 470 t. £1,410
Oporto, 2 9 c. 42
Mauritius, 99 3 397
Treguier, 86 3 258
Bordeaux, 31 93
Morlaix, 37 10 114
Tartaric Acid—
Sydney, 10 kgs. £48
Adelaide, 1 t. 7 c. 114
Oporto, 2 10
Auckland, 5 25
Libau, 4 cks. 94
Hamburg, 10 50
Dunedin, 1 5
Melbourne 2 15 1 cs. 315
Aden, 2 13
Tin Crystals—
Barbadoes, 2 kgs. £20

LIVERPOOL.
Week ending January 31st.

Alkali Waste—
Copenhagen, 5 t. 11 c. 2 q. £25
Albumen—
New York, 2 t. 2 c. £30
Alum—
Seville, 4 c. £6
Bombay, 15 t. 12 82
Jaffa, 1 16 9
Aleppo, 5 24
Halifax, 5 3 q. 24
Smyrna, 2 12
Alum Cake—
Calcutta, 10 t. 8 c. 1 q. £37
Aluminous Cake—
Calcutta, 17 t. 3 c. £67
Ammonium Carbonate—
Valparaiso, 1 t. 11 c. £52
Philadelphia, 3 120
Ceara, 7 14
Ammonium Chloride—
Genoa, 2 t. 5 c. 1 q. £45
Bombay, 5 9
Valparaiso, 21 2 550
Antwerp, 10 3 20
Philadelphia, 15 10 3 373
Ammonium Sulphate—
Las Palmas, 66 t 6 c. 1 q. £[illegible]09
Antwerp, 7 4 1 96
Genoa, 50 18 1 675
Huelva, 1 1 3 15
Valencia, 108 1 1,438
Lisbon, 10 5 136
Hamburg, 19 263
Gr. Canary, 1 14
Demerara, 30 2 2 450
Vera Cruz, 4 2 5
Arsenic—
B. Ayres, 20 t. 12 c. 3 q. £2[illegible]0
San Francisco, 2 15 37
Bahia, 5 3
Asbestos—
Bilbao, 1 cs.
Bleaching Powder—
Alexandretta, 1 brl.
Boston, 810 cks.
Havana, 31
New York, 274
Oporto, 30
Rouen, 42
Salonica, 60
Ancona, 22
Baltimore, 47
Calcutta, 250
Genoa, 72
Ghent, 64
Lisbon, 18
Naples, 10
Piræus, 7
St. John's, N'f'd., 6 bls.
San Sebastian, 59
Venice, 33
Boracic Acid—
Havre, 1 t. 7 c. £51
New York, 4 8 140
Boston, 4 8 140
Borax—
Sydney, 11 c. £15
Antwerp, 2 t. 2 2 q. 65
Melbourne, 10 3 16
Progresso, 12 19
Rotterdam, 6 1 9
Rouen, 2 53
Rosario, 3 2 6
Calcined Magnesia—
Genoa, 2 cs.
Calcium Chloride—
New York, 12 t. 10 c. £15
Shanghai, 2 5 2 7
Caoutchouc—
Rio de Janeiro, 8 cs.
Carbolic Acid—
Hamburg, 9 t. 7 c. £480
Para, 4 2 q. 10
Malta, 1 2 7
Calcutta, 1 2 25
Rouen, 10 10 577
Victoria, 2 1 6

Castor Oil—
Honolulu, 30 dms.

Caustic Soda—
Adelaide, 40 dms.
Alexandria, 7
Amsterdam, 55
Ancona, 52
Antwerp, 35
Baltimore, 319
Barcelona, 290 60 cks.
Bari, 216
Beyrout, 10
Bombay, 200
Boston, 35
Callao, 70
Corunna, 12
Fiume, 44
Hamburg, 48
Hiogo, 100
Leghorn, 177
Lisbon, 110
Malta, 4
Melbourne, 30
Messina, 51
M. Video, 150
Newcastle, 30
New York, 125 150 brls.
Oporto, 60
Pernambuco, 100
Rosario, 20
Salonica, 15
Samarang, 160
St. Domingo, 56
Singapore, 55
Tarragona, 80
Townsville, 30
Valparaiso, 50
Vera Cruz, 50
B. Ayres, 92
Calcutta, 145
Cartagena, N.G., 10
Cartagena, Sp, 15
Maranham, 5
N. Orleans, 110
Pacasmayo, 40
Rio de Janeiro, 50
Rotterdam, 60
Rouen, 95
Seville, 277
Talcahuano, 50

Chemicals *(otherwise undescribed)*

Mersyne.		13 c.	2 q.	£14
Alexandria,	2 t.	3	3	79
Odessa,	3	1		106
Philadelphia,	13			355

China Clay—
Barcelona, 20 t
Boston, 514 10 c.
Naples, 12 5
Philadelphia, 20 15

Coal Products—

Alizarine Oil
New York, 3 cks

Aniline Colours
Hong Kong, 5 cs.
New York, 2 27 cks. 2 kgs.
Canada, 1 2
Torreon, 1

Aniline Oil
Lisbon, 1 ck.
New York, 24 dms.
Rouen, 8

Aniline Salts
New York, 53 cs. 64 brls.

Anthracene
Rotterdam, 26 cks 80 brls.

Mirbane Oil
Hamburg, 15 dms.

Pitch
Bathurst, 10 cks.
Cette, 635 t.
Port de Bouc, 1,572 8 c.
Penang, 20 brls.

Tar
Callao, 40 brls.
Genoa, 2 cks.
Penang, 50 rnlts.
Philadelphia, 300

Copperas—
Aleppo, 7 t. 5 c £14

Copper Sulphate—

Brindisi,	13 t.	2 c.		£195
Marseilles,	5	2		80
Rio Grande,		10		8
Alexandria,	2		2 q.	39
Naples,	25	8	1	370
Saigon,	1			28
Catania,	43			647
Rouen,	46	4		670
Rosario,	21	4		310
Bari,	17	7	3	246
Oporto,	79	3		1,215
Fiume,	1		3	16
Lisbon,	71	5	1	1,148
Ancona,	36	7	1	540
Venice,	20	3	1	317
La Plata,	1	10		28
Antwerp,	1	1	2	16
Ghent,	2	1		31
Oran,	4		3	65
Leghorn,	2	9	3	35
Genoa,	15	13		222
Sydney,	6	10		104

Disinfectants—

Malta,		2 c.	£5
Bombay,	11	10	112

Dried Blood—
Rouen, 10 t. £76

Guano—

Malaga,	243 t.			£2,187
Valencia,	50			126
Demerara,	5	1 c.	1 q.	£5

Iron Oxide—

Valparaiso,	30 t.		£81
Cape Town,	2	16 c. 2 q.	8

Magnesia—
Santos, 5 cs.
Tarragona, 10

Magnesium Sulphate—
Calcutta, 82 kgs.

Manganese—
Antwerp, 4 cks.

Manure—

Havre,	125 t.	1 c.	2 q.	£342
Rouen,	20	7		177
Marseilles,	270	5	2	1,279
Genoa,	351	10	1	1,197
St. Nazaire,	800	2		2,300
Antwerp,	26			160

Metallic Sodium—
New York, 2 t. 2 c. 3 q. £450

Ochre—
Madras, 69 cks.
Cape Town, 20 brls. 20 kgs.

Oxalic Acid—

Canada,	1 t.	14 c.	1 q.	£49
San Juan,	2	17	2	73
Boston,	25	8	3	685

Paint—

Cape Town,	4 kgs.	3 cks.	5 dms.
Hamburg,	37	3	
Kingston, Ja.,	300		
Lanzarote,		2	
Pacasmayo,	40		
Para,		11	
Pimental,	12 cs.	5	
Pisco,		6	
Rio Grande do Sul,		2	
Vera Cruz,	70		
Havana,		40	
Honolulu,		12	
New York,		2	
Panama,		3	
Sherbro,	64		
Sierra Leone,	150		
Valparaiso,		35	

Painters' Colours—

Accra,	14 cs.			
Antwerp,	5 dms.			
Bahia,		35 kgs.		
Benguella,			14 cks.	
Bombay,		373		
Bonny,	6		1	
Brisbane,		4		
B. Ayres,	180			
Candia, 5 tcs.				11 brls.
Canea,		60		
Cape Town,	26			
Cephalonia,		5		
Cienfuegos,			4	
Genoa,	3			
Hamilton, O.,	10		1	
Madras,	2		9	
Manila,	100	300	16	
Maranham,	2		3	22
M. Video,				4
Pernambuco,	1 10		26	
"			76	
Sierra Leone,			3	
Bakana,	10		2	
Baltimore,		110	888	
Barcelona,				1 bx.
Calcutta,	2	29	5	
Callao,	10	20	27	
C. C. Castle,			2	
Lisbon,			12	
Oporto,	1			

Paraffin Wax—
Antwerp, 22 bgs.
Odessa, 40
San Sebastian, 329

Phosphorus—

Maranham,		2 c.	1 q.	£28
Shanghai,	20 cs.	20 cks.		400
Hong Kong,	5			28
Hiogo,	5			50
Yokohama,	30			384

Potashes—

B. Ayres,	2 t.	5 c.	£39

Potassium Bichromate—

Boston,		5 c.	£40
Alexandretta,	50 kgs.		199
Aleppo,		5	10

Potassium Chlorate—

New York,	32 t.	10 c.	£1,846
Havana,		5	17
Rotterdam,	1		56
Hamburg,	2		120
Hiogo,	10	11	663
Yokohama,	5		321
Antwerp,	1		70
Sydney,	1	4	74
Kobe,	5		275
Malta,	1		56
Amsterdam,		4	12
Shanghai,	5	15	339
Hong Kong,	1	10	88
Boston,	1	15	100
Gothenburg,	2	5	130

Potassium Prussiate—

Bilbao,		5 c.	£40

Salt—

Abonnema,	8 t.	3 c.
Antwerp,	100	
Axim,	20	
Calcutta,	3687	
Halifax,	5	
Hamburg,	1	7
Savannah,	20	
Manoh,	40	
Melbourne,	50	
N. Orleans,	400	
Sierra Leone,	399	4
Sulymah,	44	
Trinidad,	10	
Winnebah,	5	
Boston,	100	
B. Ayres,	46	6
Chicago,	130	
Demerara,	41	10
Jamaica,	250	
London, Ont.,	100	
Manaos,	7	3
M. Video,	6	8
New York,	1,200	
Para,	387	
Rio Grande do Sul,	1	10
Salt Pond,	12	
Valparaiso,	5	13

Salt Cake—

Baltimore,	50 t.	2 c.	£110
Ghent,	100		83

Saltpetre—

Pernambuco,	5 t.	14 c.	1 q.	£134
Zante,	1	10		33
Maranham,		6		7
Carthagena, N.G.,		19	3	21
Maceio,	1	4	2	27
Ceara,	1			22

Sheep Dip—

Natal,	1 t.			£40
Rosario,	2	5 c.		70
Cape Town,	3	12	40 cs.	107
B. Ayres,	4	17	1 q.	175
Punta Arenas,	4			120

Soap—

Algoa Bay,	600 bxs.	8 cs.
Antwerp,	16	
Appam,	40	
Barbadoes,	450	
B. Ayres,		1
Calcutta,		55 250 bdls.
Cape Town,	1,450	
Casa Blanca,	46	
Colon,	500	
Conakry,	60	
E. London,	758	
Genoa,	75	
Gibraltar,	250	
Iloilo,		1
Iquique,		1
Iquitos,	300	
Madras,		12
Monrovia,	30	
Mossel Bay,	250	
New York,	793	
Para,		1
Penang,	280	
Pt Natal,	700	1 50
Rangoon,	1,607	
Rouen,		20
Shanghai,	1,785	
Sierra Leone,	570	
Singapore,	312	10 40 kgs.
Teneriffe,	704	
Trinidad,	915	
Valparaiso,	25	6 2 cks.
Alexandria,		15 frkns
Belize,	250	
Benin,	200	
Bombay,		12
Demerara,	722	
Halifax,		200
Hamburg,		259
Karachi,	868	
Lagos,	478	
Lanzarote,	100	
Macassar,	650	
Malta,	25	1
Montreal,		201
Pt. Said,	20	
Romanshorn,		230
Rotterdam,		25
Smyrna,		6
Sydney,		1,482
Toronto,		50
Warri,	100	

Soda Alkali—

Adelaide,	50 brls.
Leghorn,	40
London, Ont,	20
Melbourne,	40
Newcastle,	40
Santo Domingo,	35
Sydney,	72
Toronto,	35

Soda Ash—

Antwerp,	19 cks.	551 bgs.	
Baltimore,	397	376 tcs.	3,580
Boston,	431	417	1,416
B. Ayres,	200		
Calcutta,	3		
Constantinople.	5	100	
Gothenburg,		50	
M. Video,			95 brls
New York,	248	763	13,234
Oporto,	24		
Philadelphia,	434	1,015	5,961
Piræus,			104
Rosario,			60
Smyrna,			212
Weston, Ont.,		50 bgs.	
Amsterdam,		150	
Batavia,			46
Brisbane,	144		
Canea,	5		
Demerara,	4		
E. London,	6		
Genoa,		100	
Ghent,	10		
Hamburg,		100	
Maranham,			20
Melbourne,	235		
Newport News,		1,600	
Parnahyba,	50		
Rettimo,	5		
Rio de Janeiro,	200		300
Rotterdam,		25	
Sydney,	10		
Syra,			50
Talcahuano,	50		
Townsville,	97		

Soda Crystals—

Boston,	392 brls.	630 cks.
Malta,	50	
Naples,		25 bgs.
Samarang,		40
San Francisco,	250	
Alexandria,	20	
Calcutta,	45	
Canada,	18 cs.	
Gibraltar,	20	
Hong Kong,	10	
M. Video,		50 kgs
New York,	230	
Philadelphia,		305
Rotterdam,	50	
St. John's, N.B.,		105
St. John's, N.F.,		60

n Arseniate—
, 10 cks.

n Bicarbonate—
ta, 700 kgs. 7 cks.
astle, 320
, 50 brls.
ang, 12
ide, 100
ndria, 70
a, 25
rp, 15
ore, 1,752 bgs.
100
ut, 20
aux, 85
ne, 300
, 215 13
urg, 97 2 7
, 315
, 100
ton, Jam., 30
hi, 40
m, 45 2
s, 50
illes, 140
lan, 20
arne, 250
o City, 100
s, 115
York, 200
, 20
s, 6
dam, 25 6
n's, N.B., 700
n's, N.F., 20
der, 50
a, 12
o, 100
s, 50
20
ia, 50
gton, 25

n Bichromate—
s, 20 cks.

n Carbonate—
York, 112 brls.
elphia, 56

n Chlorate—
10 kgs.
urg, 100
dam, 30
5

n Nitrate—
a, 1 ck.

n Oxide—
York, 4 cs.

n Silicate—
ide, 26 cks. 8 brls.
lona, 120
6
, 64
, 32
o, 10
y, 45
8

ar—
ham, 4 c. £1
agen, N.G., 19 3 q. 6
, 330 6 1,274
tta, 15 60
1 1 11
o, 11 3 5
deo, 2 15

ric Acid—
res, 1 t. £14

ntine—
Leone, 12 dms. £5
agena, N.G., 4 5
s, 50

narine—
ama, 6 brls.

sh—
, 1 cs.
ay, 10 dms. 7 6 brls.
gena, 4
, 12 2 cks.
as, 5
urne, 4
eal, 7 5
rk, 2 2
rande do Sul, 3 cs.
on, 2
raiso, 7

Lead—
a, 24 kgs.
Natal, 80
10

hloride—
ay, 2 t. 18 c. £43

White—
o, 2 cks.
Cruz, 3

MANCHESTER.

Week ending February 1st.

Alum—
Jaffa, 15 brls.

Painters' Colours—
Rotterdam, 1 kg.

Palm Oil—
Rotterdam, 1 ck.

Paraffin Wax—
Genoa, 40 cs.

Potassium Bichromate—
Bushire, 18 cs.

Tallow—
Rotterdam, 1 ck.

HULL.

Week ending January 27th.

Alkali—
Copenhagen, 1 bl.
New York, 79 cks.

Ammonium Sulphate—
Antwerp, 850 bgs.
Ghent, 226
Hamburg, 1,186

Bleaching Powder—
Copenhagen, 2 cks.
New York, 85

Borax—
Antwerp, 22 cks.

Carbolic Acid—
Rotterdam, 8 cks.

Caustic Soda—
Antwerp, 20 dms.
Konigsberg, 35
Libau, 20
New York, 50

Chemicals *(otherwise undescribed)*
Amsterdam, 16 pks.
Antwerp, 10 cks.
Copenhagen, 21 13
Christiania, 8 4 cs.
Gothenburg, 100 6 pkgs.
Antwerp, 193
Harlingen, 20
Konigsberg, 100
Libau, 280 42 2 15
New York, 148
Reval, 10 2
Rotterdam, 40

Cottonseed Oil—
Antwerp, 456 c.
Bremen, 50
Hamburg, 971
Konigsburg, 203
Rotterdam, 1,740
Stettin, 100

Dyestuffs *(otherwise undescribed)*
Hamburg, 3 cks. 3 cs.
Reval, 39

Linseed Oil—
Bremen, 133 c.
Christiansund, 18
Christiania, 115
Hamburg, 320
New York, 376
Stavanger, 82

Manure—
Antwerp, 4 t.

Ochre—
Hamburg, 3 cks.

Painters' Colours—
Amsterdam, 15 cks. 2 cs.
Antwerp, 102 13
Copenhagen, 1 3 13 dms.
Ghent, 8
Hamburg, 15
Rotterdam, 1
Stettin, 6

Pitch—
Antwerp, 217 t.

Rosin—
Christiania, 25 cks.

Soap—
Christiania, 1 cs.
Reval, 10

Tallow—
Hango, 235 cks.

Tar—
Amsterdam, 6 cks.
Hamburg, 3

Toluol—
Hamburg, 23 cks.

Varnish—
Amsterdam, 5 cks.
Antwerp, 2
Copenhagen, 154 cs.

GLASGOW.

Week ending February 1st.

Ammonium Chloride—
Italy, 2 t. 6 c. £65

Ammonium Sulphate—
Boston, 2 t. £29
Nantes, 55 14¾ c. 725

Boracic Acid—
Japan, 3 t £109

Borax—
Japan, 4 t. 15 c. £138

China Clay—
Bombay, 5 t. 12 c. £45

Coal Products—
Pitch
New York, 134 t. 10¾ c. £200
Amsterdam, 300 420
Italy, 747 5 672
Tar
Calcutta, £28

Copperas—
Singapore, £16
Bombay, 17 t. 1½ c. £26. 10s.

Copper Sulphate—
Nantes, 37 t. 10 c. £526

Cottonseed Oil—
Fiume, 4 t. 17½ c. £88

Dyestuffs—
Indigo (Patent)
Melbourne, 1 t. 18¾ c. £74. 18s.

Dyestuffs *(otherwise undescribed)*
Calcutta, 266 lbs. £35. 15s.

Linseed Oil—
Melbourne, 17 c. £23
Singapore, 1 t. 1½ £25. 15s.
Colombo, 1 11½ £37
Portland, Me., 5 3½ 114

Litharge—
Bombay, 3 t. 15½ c. £50

Magnesium Sulphate—
Rio de Janeiro, 11 t. 8½ c. £60

Muriatic Acid—
Bombay, 6 t. 16 c. £33

Paint—
Brisbane, 1 t. 8¼ c. £29. 10s.
Calcutta, 6 16 142
Singapore, 5 16 52
New York, 1 8½ 32

Painters' Colours—
Bombay, 13 t. 5 c. £170
Calcutta, 9 228

Paraffin Wax—
Japan, 16 t. 15 c. £340
Italy, 24 17 677
Fiume, 1 15½ 51
Antwerp, 2 ¾ 71
Nantes, 4 7¼ 109

Plumbago—
Hong Kong, £43

Potassium Bichromate—
Melbourne, 10¾ c. £21
Bombay, 3 t. 14¾ 142
Japan, 5 5¾ 198
Boston, 10 16 428
Italy, 22 2¾ 868

Rosin Oil—
Rotterdam, 20 brls. £40

Soap—
Bombay, 19 c. £11

Soda Ash—
Antwerp, 4 t. 15 c. £26

Sodium Bichromate—
Bombay, 3 t. 1¾ c. £94
Italy, 34 19 1,193

Superphosphates—
Nantes, 204 t. 11¼ c. £526

Tallow—
Rotterdam, 34 t. 14 c. £1,360

White Lead—
Calcutta, 5 t. £85. 10s.

TYNE.

Week ending January 27th.

Alkali—
Savona, 59 t. 13 c.
Christiania, 20 6

Alum—
Mollendo, 7 t. 3 c.

Antimony—
Savona, 10 c.

Barium Carbonate—
Rouen, 103 t. 18 c.

Bleaching Powder—
Antwerp, 63 t. 8 c.
Rotterdam, 13 3
Gothenburg, 12
Libau, 45 11
Drontheim, 10 5
Bergen, 5 4

Castor Oil—
Bergen, 14 c.

Caustic Soda—
Bilbao, 10 t. 10 c.
Antwerp, 3 15
Genoa, 34 15
Rouen, 9 5
Libau, 26 16
Mollendo, 24

Copperas—
Copenhagen, 1 t. 10 c.

Cottonseed Oil—
Aarhuus, 4 t. 5 c.

Litharge—
Rouen, 7 t. 15 c.
Copenhagen, 12

Magnesia—
Antwerp, 3 c.
Rouen, 3

Manure—
La Rochelle, 1,250 t. 3 c.

Paint—
Cagliari, 2 c.
Antwerp, 15
Bergen, 8
Genoa, 2 t. 9

Potassium Chlorate—
Genoa, 1 t. 12 c.
Reval, 15

Soap—
Copenhagen, 5 c.

Soda—
Antwerp, 5 t. 1 c.
Christiania, 5
Bergen, 11 17
Rotterdam, 3 16
Esbjerg, 70 5
Drontheim, 26 2
Mollendo, 24 7

Soda Ash—
Christiania, 5 t. 6 c.
Bergen, 5 19
Konigsberg, 13 1

Sodium Hyposulphite—
Rotterdam, 10 t. 8 c.

Sodium Sulphate—
Konigsberg, 20 t.

Sulphur—
Christiania, 30 t.
Laurvig, 150
Drontheim, 50
Malmo, 40
Mollendo, 8 2 c.

Superphosphate—
Savona, 300 t.
La Rochelle, 515 2 c.

GOOLE.

Week ending January 24th.

Chemicals *(otherwise undescribed)*
Boulogne, 4 cks.
Hamburg, 2
Rotterdam, 153

Coal Products *(otherwise undes.)*
Boulogne, 29 cks. 11 dms.
Ghent, 12
Hamburg, 2 1 cs.
Rotterdam, 520

Manure—
Boulogne, 29 bgs.
Hamburg, 496
Rotterdam, 199

Pitch—
Antwerp, 1,045 t.

GRIMSBY.

Week ending January 27th.

Chemicals *(otherwise undescribed)*
Dieppe, 13 cks. 6 pkgs.
Hamburg, 20 6 cs.

PRICES CURRENT. WEDNESDAY, February 7th, 1894.

Prepared by Messrs. Higginbottom and Co., 116, Portland Street, Manchester.

The values stated are F.O.R. at maker's works, or at usual ports of shipment in U.K. The price in different localities may vary

	£	s.	d.
Acids:—			
Acetic, 25 °/₀ and 40 °/₀ .. .. per cwt.	7/3 & 11/3		
,, Glacial .. .. ,,		50/-	
Arsenic S.G., 2000° .. .. ,,	0	14	6
Fluoric .. .. per lb.	0	0	3¾
Muriatic (Tower Salts), 30° Tw. .. .. .. per bottle	0	0	10
,, (Cylinder), 30° Tw. .. .. ,,	0	3	0
Nitric 80° Tw. .. .. per lb.	0	0	1¾
Nitrous .. .. ,,	0	0	1¾
Oxalic .. .. nett ,,	0	0	3½
Phosphoric, 1750° .. .. ,,	0	1	2½
Picric .. .. ,,	0	1	0
Sulphuric (fuming 50 °/₀) .. .. per ton	15	10	0
,, (monohydrate) .. .. ,,	5	10	0
,, (Pyrites, 168°) .. .. ,,	3	0	0
,, ,, 150° .. .. ,,	1	5	0
,, (free from arsenic, 145°) .. .. ,,	1	6	0
Sulphurous (solution) S.G. 1025 .. .. ,,	3	0	0
Tannic (pure) .. .. per lb.	0	1	2
Tartaric .. .. ,,	0	0	11
Arsenic, white powdered .. .. nett per ton	14	0	0
Alum (loose lump) .. .. ,,	5	2	6
Alumina Sulphate (pure) .. .. ,,	5	0	0
Aluminoferric .. .. ,,	2	10	0
Aluminium .. .. per lb.	0	3	0
Ammonia, Anhydrous .. .. ,,	0	1	1
,, ·880=28° .. .. per lb.	0	0	3
,, =24° .. .. ,,	0	0	2¼
,, Carbonate .. .. nett ,,	0	0	3¾
,, Muriate .. .. per ton	25	10	0
,, ,, (sal-ammoniac) 1st & 2nd .. per cwt.	39/- & 37/-		
,, Nitrate .. .. per ton	44	0	0
,, Phosphate .. .. per lb.	0	0	10½
,, Sulphate (grey) London (nominal) .. per ton	13	17	6
,, ,, (grey) Hull (nominal) .. .. ,,	13	15	0
Aniline Oil (pure) .. .. per lb.	0	0	6¼
Aniline Salt ,, ... ,,	0	0	5¾
Antimony .. .. per ton	45	10	0
,, (tartar emetic) .. .. per lb.	0	1	0
,, (golden sulphide) .. .. ,,	0	0	10
Barium Chloride .. .. per ton	7	10	0
,, Carbonate (native) .. .. ,,	3	10	0
,, Sulphate (native levigated) .. .. ,,	45/- to 75/-		
Bleaching Powder, 35 % .. .. nett ,,	7	10	0
,, Liquor, 7 % .. .. ,,	3	10	0
Bisulphide of Carbon .. .. ,,	11	15	0
Chromium Acetate (crystal) .. .. per lb.	0	0	6
Calcium Chloride .. .. per ton	2	5	0
China Clay (at Runcorn) in bulk .. .. .. ,,	17/6 to 35/-		
Coal Tar Products and Dyes:—			
Alizarine (artificial) 20 % .. .. .. net per lb.	0	0	8
Magenta .. .. ,,	0	3	9
Anthracene, 30 % A, f.o.b. London .. per unit per cwt.	0	1	1
Benzol, 90 % nominal .. .. .. per gallon	0	1	3
,, 50/90 ,, ... ,,	0	1	5
Carbolic Acid (crystallised 40°) .. .. . per lb.	0	0	6
,, (crude 60°) .. .. per gallon	0	1	8
Creosote (ordinary) .. .. ,,	0	0	2½
,, (filtered for Lucigen light) .. .. ,,	0	0	3
Crude Naphtha 30 % @ 120° C. .. .. .. ,,	0	0	8½
Grease Oils, 22° Tw. .. .. per ton	2	5	0
Pitch, f.o.b. Liverpool or Garston .. .. .. ,,	1	8	6
Solvent Naphtha, 90 % at 160° .. .. .. per gallon	0	1	3
"Lucigen" and "Wells Oils .. .. ,,	0	0	2½
Copper .. .. per ton	41	2	6
,, Sulphate .. .. ,,	15	10	0
,, Oxide (copper scales) .. .. ,,	40	0	0
Glycerine (crude) .. .. ,,	13	0	0
,, (distilled S.G. 1250°) .. .. ,,	43	0	0
Iodine .. .. nett, per oz.	0	0	9
Iron Sulphate (copperas) .. .. per ton	1	10	0
,, Sulphide (antimony slag) .. .. ,,	2	0	0
Lead (sheet) for cash .. .. ,,	10	5	0
,, Litharge Flake (ex ship) .. .. ,,	13	0	0
,, Acetate (white ,,) .. .. ,,	26	0	0
,, ,, brown ,,) .. .. ,,	17	10	0
,, Carbonate (white lead) pure .. .. ,,	20	0	0
,, Nitrate .. .. ,,	20	0	0
Lime, Acetate (brown) .. .. per ton	6	10	0
,, ,, (grey) .. .. ,,	10	5	0
Magnesium (ribbon and wire) .. .. per oz.	0	2	3
,, Chloride (ex ship) .. .. per ton	2	10	0
,, Carbonate .. .. per cwt.	1	17	6
,, Hydrate .. .. per ton.	17	0	0
,, Sulphate (Epsom Salts) .. .. per ton	2	19	0
Manganese, Sulphate .. .. ,,	17	15	0
,, Borate .. .. per cwt.	2	12	6
,, Ore, 70 % .. .. per ton	4	5	0
Methylated Spirit, 61° O.P. .. .. per gallon	0	2	2
Naphtha (Wood), Solvent .. .. ,,	0	3	9
,, ,, Miscible, 60° O.P .. .. ,,	0	5	0
Oils:—			
Cotton-seed .. .. per ton	22	0	0
Linseed .. .. ,,	21	10	0
Petroleum, Russian .. .. per gallon	0	0	3¾
,, American .. .. ,,	0	0	5¼
Phosphorus (yellow) .. .. per lb.	0	2	2
,, (red) .. .. ,,	0	2	9
Potassium (metal) .. .. per oz.	0	3	7
,, Bichromate .. .. nett per lb.	0	0	4½
,, Carbonate, 90% (ex ship) .. .. .. per ton	16	10	0
,, Chlorate .. .. per lb.	0	0	7¾
,, Cyanide, 98% .. .. ,,	0	2	0
,, Hydrate (Caustic Potash) 80/85 % .. per ton	21	15	0
,, ,, (Caustic Potash) 75/80 % .. ,,	20	10	0
,, ,, (Caustic Potash) 70/75 % .. ,,	20	0	0
,, Nitrate (refined) .. .. per cwt.	1	2	6
,, Permanganate .. .. per cwt.	3	5	0
,, Prussiate Yellow .. .. per lb.	0	0	10¾
,, Sulphate, 90 % (ex ship) .. .. .. per ton	9	15	0
,, Muriate, 80 % (do.) .. .. .. ,,	8	0	0
Silver (metal) .. .. per oz.	0	2	5 11/16
,, Nitrate .. .. ,,	0	2	10
Sodium (metal) .. .. per lb.	0	3	4
,, Carb. (refined Soda-ash) 48 % .. nett per ton	5	5	0
,, ,, (Caustic Soda-ash) 48 % .. ,, ,,	4	2	6
,, ,, (Carb. Soda-ash) 48% .. .. ,, ,,	4	2	6
,, ,, (Carb. Soda-ash) 58 % .. .. ,, ,,	4	2	6
,, ,, (Soda Crystals) .. .. .. ,, ,,	3	0	0
,, Acetate (ex-ship) .. .. ,,	15	10	0
,, Arseniate, 45 % .. .. ,,	11	0	0
,, Chlorate .. .. per lb.	0	0	8¾
,, Borate (Borax) .. .. net, per ton.	28	0	0
,, Bichromate .. .. ,, per lb.	0	0	3¾
,, Hydrate (77 % Caustic Soda) (f.o.b.) net pr. ton (10 ton lots)	11	0	0
,, ,, (74 % Caustic Soda) ,, ,, ,, (10 ton lots)	10	5	0
,, ,, (70 % Caustic Soda) ,, ,, ,, (10 ton lots)	9	5	0
,, ,, (60 % Caustic Soda) .. ,, ,, (10 ton lots)	8	5	0
,, ,, (60 % Caustic Soda, cream) (f.o.b.) ,, (10 ton lots)	8	0	0
,, Bicarbonate .. .. ,,	6	15	0
,, Hyposulphite .. .. ,,	6	0	0
,, Manganate, 30% .. .. ,,	16	0	0
,, Nitrate (95 %) ex-ship Liverpool .. .. per cwt.	0	9	4½
,, Nitrite, 98 % .. .. per ton	29	10	0
,, Phosphate .. .. ,,	15	0	0
,, Silicate (glass) .. .. per ton	5	7	6
,, ,, (liquid, 100° Tw.) .. .. .. ,,	4	5	0
,, Stannate, 40 % .. .. per cwt.	3	0	0
,, Sulphate (Salt-cake) .. .. per ton.	1	0	0
,, ,, (Glauber's Salts) .. .. ,,	1	10	0
,, Sulphide .. .. ,,	8	10	0
,, Sulphite .. .. ,,	5	15	0
Strontium Hydrate, 100% .. .. ,,	8	10	0
Sulphocyanide Ammonium, 95 % .. .. per lb.	0	0	7½
,, Barium, 95 % .. .. ,,	0	0	5¾
,, Potassium .. .. ,,	0	0	7½
Sulphur (Flowers) .. .. per ton.	8	0	
,, (Roll Brimstone) .. .. ,,	6	10	0
,, Brimstone: Best Quality .. .. .. ,,	4	2	6
Superphosphate of Lime (26%) .. .. ,,	2	7	6
Tallow .. .. ,,	28	0	0
Tin (English Ingots) .. .. ,,	75	10	0
Tin Crystals .. .. per lb.	0	0	6¾
Zinc (Spelter) .. .. per ton	15	17	6
,, Chloride (solution, 96° Tw.) .. .. .. ,,	5	15	0

THE

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CURRENT TOPICS.

THE NEW RULES FOR CHEMICAL WORKS.

IN our columns this week will be found the new rules formulated by the Departmental Committee which has been investigating the conditions of labour in chemical works.

It is somewhat amusing that these rules should be published, and further will in all probability be bearing good fruit, long before the report of the Royal Commission on Labour ever sees light. The evidence of the witnesses who were examined is much more instructive, and representative, than much of that given before the said Commission, and the Committee is to be congratulated upon the thorough and speedy way in which it has performed its task.

The rules as they stand are undoubtedly good, and few manufacturers, we should think, are likely to quarrel with them. It is much more satisfactory for manufacturers to have in black and white what they are expected to do, than for them to be constantly confronted with surprising statements, concerning the wondrous marvels which are from time to time reported as existing, or taking place on their works.

It is only fair to certain manufacturers, however, to state that excellent as the rules are, they nevertheless are not very startling, as many of the suggestions which they embody, have long since been put into effect in some works. It is a great advantage though to have a code of regulations, which will have to be enforced in every works, one and all alike. Such an arrangement should do much to improve the surroundings of the men, thus obviating in the future the spread of exaggerated and garbled accounts of the procedure in a chemical works, gathered by inexperienced persons, from ignorant and strongly-biased informants. One of the most important features of these new rules, and also the most original, is the clause which gives the employer a handle wherewith to enforce the execution of the precautions he has to provide. The difficulty of doing this has so far been all but entirely overlooked. Portions of the evidence which was given, emphasised the necessity of making some such provision, and it is enough, we should think, to dispel any feelings of hostility which a local bearing of the new rules might engender, to find at last, public recognition made of the fact, that although chemical manufacturers have had to put up with no end of heckling and verbal ill-usage for the way they treat their employés, a great deal of the fault lies at the door of the sufferers themselves, on account of their irrefragable stolidity and apathy.

The last clause, both in the rules for general chemical works and bichrome works deals with this matter. And deals with it in a way which conveys a tacit acknowledgment of this grievance of the manufacturer, by granting him the assistance afforded by the ninth section of the Factory and Workshop Act, which states: "If any person who is bound to observe any special rules established for any factory or

workshop under this Act, acts in contravention of or fails to comply with any such special rule he shall be liable on summary conviction to a fine not exceeding two pounds."

This clause throws a very different light on things as compared with what they formerly were supposed to be. Up to now, the majority of *bonâ-fide* chemical labourers have been like the horse taken to water, in regard to the adoption of preventive measures, other than their own crude devices. It is astonishing how conservative some of these apostles of ultra-radicalism are and can be. Perhaps their troubles will be more readily met and disposed of, now a fine equivalent to a week's wage hangs over their heads should they fail to co-operate in endeavouring to perform their work as safely and sensibly as possible.

A STEP IN THE RIGHT DIRECTION.

The difficulties of preventing river pollution on an extensive scale have been preached over and over again, but, as is often the case, many important difficulties are never recognised until the task has been fairly begun. Up to now the general work of the Mersey and Irwell Joint Committee, as far as manufacturing pollution is concerned, has been to enforce the putting down of satisfactory settling tanks and filtering accommodation. Having practically accomplished this part of their work, they have been confronted with another difficulty, namely, to see that the deposit of sludge, collected in the settling tanks, is rightly disposed of; and they recently successfully dealt with a case where a manufacturer, after accumulating a goodly stock of sludge, turned his concentrated impurities back into the river.

The possibility of this becoming a general practice opens up the question of whether Corporations and Rural Sanitary Authorities ought not to come to the assistance of the manufacturer by offering, for a certain charge, to dispose of the deposit in his settling tanks. It seems equally just for this to be done by such bodies, for those in their own community who are the largest ratepayers, as it is for those who bear the burden of a smaller portion of the rates to have their ashes and household accumulations removed. The Salford Corporation are to be congratulated upon their wisdom in determining to do their best to render assistance to the manufacturers in their own borough in this connection, by collecting the sludge in tank-wagons, and dealing with it at their extensive sewage works at Mode Wheel, for a fee barely covering the cost of cartage. We do not mean to say that all authorities are in a position to perform this task at such a nominal cost, but there is no doubt that in doing it at all they would take a step calculated to produce permanent good.

If such means existed for dealing with manufacturers' waste deposits, there would be no excuse for turning the same into the river; whereas if they do not exist, even with the most vigilant and uninterrupted inspection, it will be found well nigh impossible to catch the manufacturer *in flagrante delicto*. Yet, unless such a practice is effectually put a stop to, we shall have made next to no advance in the purification of our rivers. Of course, many authorities will plead that they have no sewage works at which to treat the sludge as Salford purposes doing. But they will have to have them. And, lastly, where there are sewage works, it will be a consolation to ratepayers to know that, if at present the whole of the sewage is not being treated as well as it might, the works, which have cost a tidy penny, will, when dealing with sludge, assuredly be effecting some good, and affording direct relief in return for the outlay.

CHEMISTRY AND MEDICINE.

There is a prevalent idea that the medical students of the present day are receiving fuller instruction than formerly in general chemistry, in order to enable them to grasp and apply the advances which have been made in medico-chemistry during recent times. A knowledge of chemistry is an acquisition to medical men, even if it is not an essential. At all events, a training in general chemistry is now included in the syllabus of almost every medical school or college.

It is very unfortunate, however, when chemistry is supposed to have been taught, that a student should be passed by a well-known Medical Examining Board, whilst labouring under the delusion that ammonia is a neutral gas which has to be collected over warm water, because it is soluble in cold. Such is no chimerical case, but an actual fact. Pharmaceutical chemists are not above doing simple analyses *gratis* nowadays, but their claim to being fit members of the analytical profession is vastly greater than that which could be advanced by the embryo-medico who prepares ammonia from potassium nitrate and hydrochloric acid.

Though by no means advocates of the examination craze, nor firm believers of the efficacy of written examinations as a perfect test of knowledge, still they undoubtedly are capable, through the agency of a well-set paper, of ascertaining if a student has a fair general knowledge of the principles of chemistry. If a student cannot answer half the questions out of a paper of say eight or ten, in a satisfactory manner, he can't know much about his subject. Nor is it a feasible excuse to plead, that, although knowing much more chemistry than a student who has been crammed, failure was due to not being examined in the branches best known. Students who have been "prepared" for an examination generally betray the fact in some portion of their work; but for a student to actually know more chemistry than one who has "crammed" and not be able to give evidence of his superior knowledge is a surprising anomaly. The matter would not occupy our attention, if it were not for the fact that professional chemists have had to contend against a good many discreditable impressions entertained by the general public, and created largely by the misdoings of those who are not fit exponents of the profession. On this account, therefore, have we entered our protest to oppugn any action which might derogate the prestige of the analytical or professional chemist.

AN OXYGEN WORKS CONVICTED OF AIR POLLUTION.

Chemical works are noted for creating public nuisances, at least they are credited with so doing; and truly there are few branches of chemical industry which are not capable, under certain circumstances, of emitting obnoxious vapours. One would think, however, it was almost impossible, that a firm who merely separate or collect in a concentrated form, the two elements constituting the mechanical mixture which surrounds us as our atmosphere, should be capable of emitting gases which pollute the same. Yet such has proved to be the case, since the Brin's Oxygen Co. were summoned recently at the Westminter Police-court for emitting sulphuretted hydrogen or other noxious gas from their works.

The defence which they set up was amusingly novel, since they proposed to shift the *onus* on to a shelter station occupied by certain valiant warriors of General Booth's renowned army; pleading that they burnt old and dirty clothes there. The magistrates, however, evidently thought that the nuisance which the Army creates is likely to affect the tympanum rather than the nasal tissues, and considered the

e insufficient, as they ordered the defendants to pay a £10. and £10. costs.

ertainly seems rather hard on chemical manufacturers even the production of life-giving oxygen is attended he emission of noisome smells. But. if they must be ed, of course it is only right that in this particular ry, the same means of preventing any nuisance should opted, as in other branches of the trade.

HE MANUFACTURE OF PHOSPHATE OF POTASSIUM.

ASSIUM is one of the elements which is absolutely necessary to he normal and complete development of plants. Potash ferti- re therefore as much to be recommended as those containing nous and phosphatic substances, and the fact that they are com- ely little used in France, is to be explained by the circumstance ost of the arable land of the country is so well provided with that the addition of fertilisers rich in this element does not produce any marked influence.

rding to M. Deherain, it appears that the silicious clays, which in the districts of Caux, Vexin, la Brie, la Somme, and le Pays- ais, as well as the quaternary alluvial deposits, contain so much that the use of potash fertilisers produces but little effect. The true in general of the soils derived from the primary rocks of ne, Vendee, Limousin; those derived from the schists in ne Anjou, Maine, etc., and the marls of the lias, are in the osition. The soils poor in potash are essentially the chalk, sand, t. In Champagne, potash is generally lacking, and the same is the sands of Landes and the grits of the Vosges; in turfy soil produces marvellous effects

ny case, even in soils rich in potash, the use of potassic fertilisers advised when plants are cultivated which absorb such large amounts sh, as beetroot, the potato, or the artichoke. The chief authorities subject also recommend the addition of potash salts for the tion of trees, fruit trees, or vines.

he large scale the chief forms in which potash is added are the e and the sulphate, either refined or crude as they exist in the deposits of Stassfurt. In exceptional cases nitrate of potassium loyed, and M. Georges Ville has recommended the use of um carbonate.

some years a new potassium salt has been made in Germany, will not indeed find an extended use in agriculture on account of price, but which is to some extent in demand as a fertiliser for , fruit trees, and vines; this salt is phosphate of potassium. The t as brought into the market contains 26 to 28% of potash and 8% of phosphoric acid; its actual price is about £2. per 100 kilos many The following account of the manufacture of this salt is rom the *Deutsche landw. Presse*:—

MANUFACTURING PROCESSES.

processes have been hitherto used for the manufacture of this oduct and the other alkaline phosphates. One of these consists rating potash with syrupy phosphoric acid, but is too costly to e general. The other, adopted by Messrs Muller, Packard, and nsists in treating potassium sulphate with phosphoric acid, but terial thus obtained is unsuitable for agricultural purposes on t of the large amount of sulphuric acid (30%) which it contains. also been proposed to decompose an alkaline sulphate cid phosphate of calcium, gypsum being thus precipitated. processs cannot, however, be industrially applied because cipitate of gypsum produced is so voluminous as to give a pasty which renders the separation of the solution of phosphate a of great difficulty. This separation can only be effected under circumstances by means of a complicated system of washing dilute liquors, which would entail considerable expense for ation, etc. The process has, therefore, never been applied on ge scale. The new process, patented by Messrs. H. and E. , at Biebrich, in Germany, has the advantage of producing the tate of gypsum in such a form that it can be separated without ty from the concentrated solution of phosphate. The inventors, l of introducing the lime in the form of a soluble salt, which pro- a too voluminous deposit, bring it into the solution in an insoluble s carbonate, and thus obtain a granular deposit, surmounted by a ayer of solution containing the desired phosphate. The new s then consists in introducing into a tank lined with lead, and ed with an agitator, a certain amount of a solution of phosphoric known strength, in which is then dissolved the proper amount hate of potassium, sodium or ammonium, according to the nature of the alkaline phosphate required. The calculated quantity of carbonate of lime in the finely-powdered state is then introduced, and the liquid thoroughly stirred. When the re-action has ceased, the gypsum is collected on a filter press, and the solution which passes through is evaporated, and the resulting salt powdered.

In place of pure chalk it is possible to use a phosphatic chalk, such as the gray phosphatic variety which occurs abundantly in the North of France and in Belgium. This chalk, from which it does not pay to extract the phosphoric acid on account of the large amount of carbonate of lime present, can, moreover, be obtained very cheaply.

In the above process the phosphoric acid of this material is obtained in a valuable form, from which it can easily be liberated without any great expense by sulphuric acid, the whole of the carbonate of lime having been converted by the treatment into sulphate of lime. The residue thus forms an excellent source for the phosphoric acid used in the process itself, the small amount of alkaline phosphate which may adhere to it being thus recovered.

The use of phosphatic chalk necessitates neither washing nor concentration, and is thus very economical

We do not know whether this method has been patented in France or even whether it can be patented there, but we have thought it useful to make known the process of manufacture of an article which is in steady demand in France.

AN OIL REFINER'S EXPERIENCES.

AT the Liverpool Bankruptcy Court, last week, his Honour Judge Collier heard an application for discharge in the bankruptcy of Edward Spencer, an oil refiner, of Salford and Openshaw, whose failure was brought about by the collapse of a Liverpool oil and lard dealing firm, named Burbie Brothers, in which he had taken a partnership. Mr. B. T. Newman appeared for the applicant, and Mr. Layton for the trustee (Mr. Benjamin Howorth) The Official Receiver read his report, which revealed a sad story. The applicant, Mr. Spencer, had been an oil refiner at Openshaw, where he carried on a lucrative and successful business. In October, 1887, he joined as a partner the firm of Burbie Bros., carried on by James and Hugh Burbie, and paid into that firm nearly £9,500, but retained his own business for himself. At the time of joining the Burbies, the brothers produced a balance-sheet showing a surplus of £766, but the Official Receiver found that this was non-existent, the fact being that the Burbies were insolvent to the extent of some hundreds of pounds. The firm of Burbie Brothers, including Mr. Spencer, failed in June, 1893, with liabilities returned at £17,463, but proofs of debt were admitted to the extent of £19,455, and the assets had realised £1,525, with about £70 more to come in. Mr. Spencer's separate statement of affairs showed liabilities of £658, but only £177 had been proved, there being an outstanding claim which might amount to £600. On the other hand the assets set down at £3,229 had in fact realised £3,900. All the separate creditors had been paid 20s. in the pound, and after the payment of all expenses there would be a considerable surplus to hand over to the joint estate. The Official Receiver stated that he had nothing to report against the conduct of the bankrupt, who, he believed, was deceived by his partners from beginning to end in the statements and balance-sheets from time to time placed before him.

Mr. Newman, in applying for the discharge, thought the Court must have been struck by the favourable report of the Official Receiver. As a matter of fact the applicant had been from the first a tool of the Burbies, and had paid into the firm not less than £10,000, and had never received a penny out of the concern in profit or any other way. Everything he possessed, including a very lucrative business at Salford, had been sold up, and he was left absolutely penniless. He (Mr. Newman) hoped his Honour would look upon the matter in the same sympathetic way as the Official Receiver.

Mr. Layton said the trustee and Committee of Inspection were quite content to leave the matter in his Honour's hands.

The Judge said his difficulty was that in the joint estate no dividend had been paid. If the dividend on the joint estate did not amount to 10s in the pound he would have to suspend the discharge for two years, unless it could be shown that the failure to do so was due to circumstances the applicant could not control.

Mr. Newman said that was his contention, and referred to a dictum in Baldwin. p. 399, "it would seem that an unfortunate partner is not to be prejudiced by an act of his co-partner disentitling him to discharge."

Mr. Layton said it was expected the dividend on the joint estate would be between 3s. and 4s. in the pound.

His Honour said he would find that the failure to pay 10s. in the pound was due to circumstances for which the applicant could not justly he held responsible, according to the report of the Official Receiver, and would grant an immediate discharge.

THE PAINTING OF IRON CONSTRUCTIONS.

By E. H. Brown.

In constructive iron work, the condition of the surface under the coating of paint becomes highly important. To the superficial observer the painted surface may appear as perfect as the day it was put on, yet underneath it the iron may be slowly, yet none the less surely, rusting away. In fact, it sometimes happens that the paint itself proves an active destructive agency for injuring the iron. This is specially true of certain of the metallic paints containing sulphur in a form readily oxidizable to sulphuric acid, or of certain of the oxides such as Venetian red which are practically rust themselves and give off oxygen to the iron, absorbing more from the outer air to replace that which has been lost. It is said that a similar process takes place during the oxidation of linseed oil, which changes it to linoxin. Were all the oil to unite with the pigment base to form a soap, then none of its oxygen could be given off to rust the iron; but in the case of white lead, according to Condit, it is only the hydrate which forms a soap with the oil, while the carbonate remains practically unchanged, being held, as it were, in suspension in the oxidized vehicle. Hence a large proportion of the oil, in drying, is free to give up its oxygen to the iron, absorbing more from the air, and thus becomes an active rust-producing agent. While this theory may not be correct, it is certain that a priming coat of white lead is not a good preservative of iron.

Red lead, from the fact that it dries up linseed oil almost entirely by saponification, forming a pure lead soap, and that there is therefore, none of that oxidation of the oil which takes place in the presence of pigments wholly inert or which only partially combine with it, has long been regarded as the best possible preservative for clean dry iron. But in order to be most effective, the iron must be perfectly clean and free from any suspicions of rust, and absolutely dry. Red lead should be perfectly pure, and of the best and most careful preparation. That from any well-known corroding house may be depended upon for purity, but not always for quality. It is simply a red oxide of lead. The best type is orange mineral. On account of its expense, this is not so frequently used as it deserves. Red lead proper is made directly from the metal, which is first oxidized to the yellow litharge and then to the red oxide. This, however, does not give as good a paint as that made from the scrap, settlings, and tailings of the white lead works. As red lead saponifies very quickly with linseed oil, it must be used within a few days after being ground, and, moreover, it is rather difficult to work. Hence there is a great temptation to the unscrupulous painter to add some substance, such as whiting, to it in order to make it work freer, as well as to cost less money for material. A very interesting case was recently brought to my attention. On a very large job, a certain painter who had obtained the contract for painting, went to a well-known paint manufacturer to obtain a price for a paint to be composed in accordance with a sample which he produced, he stating that this sample was furnished him by the contractor for the iron work. On analysis the same was found to contain fifty per cent. red lead and fifty per cent. whiting, and a price was arranged at which this should be furnished. It was sold to the painter for exactly what it was, with no attempt to deceive him in the case. After the completion of the work, the manufacturer, wondering why such a mixture was specified, sent one of his salesmen to make inquiries in the matter. He succeeded in finding out at the engineer's office that the specification called for "pure red lead." As no benefit could possibly have accrued to the paint manufacturer had he called the attention of the engineer to the violation of the specifications, since he would have succeeded merely in losing a good customer, he decided that wisdom prompted him to say nothing about it. He remembered the words of an astute politician, "Don't talk," and didn't. Had the engineer specified in the beginning that the red lead to be used should be strictly pure, and bear the brand of the manufacturer in question, and had he then taken the trouble to notify this manufacturer that his particular brand of red lead was to be used, the pure article would have been sent to the job, and the engineer would have secured for his clients an honest instead of a rascally job of painting.

Before painting ironwork it is very essential that the iron itself should be absolutely free from rust. Rust has the peculiar property of spreading and extending from a centre, if there be the slightest chance to do so. Hence, a small amount of rust on the iron may grow under the surface of the paint, especially if it be true, as Dr. Dudley asserts, that linseed oil is permeable by air and moisture, and in time the paint will be flaked off by the rust underneath, thus gradually exposing the bare surface of the iron to the action of its destroying agents, oxygen in the presence of water. It is necessary to remove all the scale possible from wrought iron by means of stiff wire brushes, and then to remove the rust by a pickle of very dilute acid, which must afterward be thoroughly washed off before the paint is applied. The surface of the iron should be dry and at least moderately warm before it is primed. Hence, the specifications usually call for the priming with red lead, to be done by the iron manufacturer, before its delivery to the jo has been suggested that rust may be quickly and thoroughly re from iron by coal-oil. This should afterwards be washed from t face with benzine, which should be allowed to evaporate before pa otherwise the coal-oil, being practically non-drying, would inevitabl the paint to peel from the metal. Red lead, to secure the best should be thoroughly incorporated with the oil in a mill, a merely stirred in by hand. While the use of red lead appears very general, its success depends so very much upon the care wh workmen take in preparing the surface to be painted, that it desirable that some paint should be found to take its place, whic be applied either to a hot or cold surface, and which should be in a vehicle rendered practically inert, so that it would not in itse to promote rusting already begun, or to start it on a surface w had not already commenced. This vehicle, if it be possible, sho one which would be absolutely impervious to gases or moisture. this idea, a well-known firm of paint manufacturers of Philadelphi ago began a series of investigations into the subject, and, after experiments, produced a paint which they have called "Anti Ru well satisfied have they been with the tests that they have appli the corrugated iron roof and sides of a new acid chamber bu just completed, in which the iron would be subjected to the p trying action of the fumes of sulphuric acid. As a sample of the test to which a paint is put by a conscientious manufacturer bef material is offered to the public, iron pipes were painted wi material, and were exposed for over a week to the heat from passing through them at a 100 pounds pressure. This was done boiler house, where they were exposed to the fumes from the burnin They were then placed in a freezing mixture of ice and salt, whe were kept for 24 hours. The pipes showed for themselves how we stood the test. Ordinary paint, mixed with linseed oil, under th conditions would undoubtedly have peeled, blistered, or softened subjected to either of these tests. In the factory there are nu steam pipes, running from one building to the other, for the purp conveying steam for heat or power. The "Anti Rust" has als tried upon these, and exhibits no tendency whatever to blister, appears to be baked upon the surface. So far as the most caref periments would seem to indicate, the vehicle when dry for absolutely impervious coating to gases and moisture. It has bee pared with three different pigment bases; a brown oxide of iron, is not highly recommended, as it is not the highest form of oxid might perhaps be subject to change; the bright red ferric oxide, cent. pure, which some of the most eminent German authorities present day believe to be the most suitable pigment for paintin since it is practically unchangeable, and being itself iron there no electric action between this and the metallic surface to whic applied. The third pigment, and in the judgment of Dr. Dudl best, is black, which seems to be chemically and electrically Using this paint as an outer covering over a priming coat of pu lead would probably give the best protection to iron, combinin the advantages of both paint materials.

THE MINERAL PRODUCTION OF THE U.S.

The annual report upon the mineral resources of the United for the calendar year 1892 to the Chief of the Division of M Statistics and Technology of the Geological Survey is issued. summary shows the total value of the mineral products of the c for that year to have been £137,075,476., the highest ever k The following table gives the amount of the production of the s more important articles :—

Products.	Quantities.
Lead, tons	213,262
Zinc, tons	87,260
Quicksilver, flasks	27,993
Petroleum, barrels	50,509,136
Lime, barrels	65,000,000
Cement, barrels	8,758,621
Salt, barrels	11,698,890
Phosphate rock, tons	681,571
Mineral waters, gallons sold	21,876,604
Zinc white, tons	27,500
Potters' clay, tons	420,000

Toujours l'Aluminium.—The uses of aluminium are undou many, but a German manufacturer has added another to the list, b ducing aluminium bows for neckties. They are made to imitat or silk, and are said to do so perfectly. Their great advantage they can be easily cleaned, and are no heavier than an or necktie.

NEW REGULATIONS FOR THE CHEMICAL TRADE.

GENERAL CHEMICAL WORKS.

following are the rules which have been drawn up by the Chemical Works Inquiry Committee, and which we commend to ice of all engaged in the chemical industry :—

In future every uncovered pot, pan, or other structure, containid of a dangerous character, shall be so constructed as to be at ree feet in height above the ground or platform. Those already ence which are less than three feet in height, or in cases where wed to the satisfaction of an inspector that a height of three mpracticable, shall be securely fenced.

There shall be a clear space round such pots, pans, or other es, or where any junction exists a barrier shall be so placed as ent passage.

Caustic pots shall be of such construction that there shall be no on the top or sides of the brickwork, and dome-shaped lids e used where possible.

No unfenced planks or gangways shall be placed across pots, r other structures containing liquid of a dangerous character. le shall not apply to black-ash vats where the vats themselves erwise securely fenced.

Suitable respirators shall be provided for the use of the workers es where poisonous gases or injurious dust may be inhaled.

The lighting of all dangerous places shall be made thoroughly t.

Every place where caustic soda or caustic potash is manufactured e supplied with syringes or wash-bottles, which shall be d in covered boxes fixed in convenient places, in proportion of every four caustic pots. They shall be of suitable form and d be kept full of clean water. Similar appliances shall be prowherever, in the opinion of an inspector, they may be desirable.

Overalls, kept in a cleanly state, shall be provided for all s in any room where chlorate of potash or other chlorate is . In every such room a bath shall be kept ready for immediate

very chlorate mill, tallow or other solid lubricant shall be used of oil.

espirators charged with moist oxide of iron or other suitable ce shall be kept in accessible places ready for use in cases of ncy arising from sulphuretted hydrogen or other poisonous gases.

In saltcake departments suitable measures shall be adopted by ining a proper draught, and by other means, to obviate the of low-level gases.

Bleaching-powder chambers, after the free gas has, as far as practicable, been drawn off or absorbed by fresh lime, shall, being opened, be tested by the standard recognised under the Act. Such tests shall be duly entered in a register kept for the , which shall be produced to an inspector whenever called for. ambers shall be ventilated as far as possible when packing is arried on, by means of open doors on opposite sides, and open- the roof, so as to allow of a free passage of air.

In cases where the co-operation of the workers is required for g out the foregoing rules, and where such co-operation is not the workers shall be held liable in accordance with the Factory orkshop Act, 1891, section 9, which runs as follows :—"If any who is bound to observe any special rules established for any or workshop under this Act, acts in contravention of, or fails to with any such special rule, he shall be liable on summary convic- a fine not exceeding two pounds."

BICHROMATE WORKS.

n future every uncovered pot, pan, or other structure containing of a dangerous character shall be so constructed as to be at feet in height above the ground or platform. Those already in ce, which are less than 3 feet in height, or in cases where it is to the satisfaction of an inspector that a height of 3 feet is ticable, shall be securely fenced.

here shall be a clear space round such pots, pans, or other res, or where any junction exists a barrier shall be so placed as ent passage.

o unfenced planks or gangways shall be placed across pots, r other structures containing liquid of a dangerous character.

espirators, suitable for protection of nostrils and mouth, shall be d where injurious dust or noxious fumes may be inhaled.

he lighting of all dangerous places shall be made thoroughly t.

asmuch as dust is the principal cause of the various evil results kers in chromium compounds, all due means shall be taken to every way the formation of dust.

loves of some waterproof material shall be provided for the use kers who handle the crystals.

8. Sufficient lavatory accommodation, with hot and cold water, soap, nail brushes, and towels, shall be provided.

9. In cases where the co-operation of the workers is required for carrying out the foregoing rules, and where such co-operation is not given, the workers shall be held liable in accordance with the Factory and Workshop Act, 1891, section 9, which runs as follows :—"If any person who is bound to observe any special rules established for any factory or workshop under this Act acts in contravention of, or fails to comply with, any such special rule, he shall be liable, on summary conviction, to a fine not exceeding two pounds."

EXPORTS OF ALKALI AND BLEACH.

THE following figures, which are taken from the official foreign and colonial statistics of the United Kingdom, give the amount and value of alkali and bleaching materials shipped to the undermentioned countries during the past past year as compared with 1892 :—

ALKALI.

Port.	1892.	1893.	1892.	1893.
	Cwts.	Cwts.	£	£
Russia	265,600	305,340	123,084	122,062
Sweden and Norway	86,800	133,284	29,002	32,626
Germany	98,300	134,285	42,971	49,133
Holland	56,100	89,381	18,881	21,977
France	42,300	47,196	18,750	19,304
Spain and Canaries	262,800	231,190	123,388	103,092
Italy	181,300	201,254	79,975	74,149
United States	3,715,600	3,466,481	1,248,351	1,017,169
Australasia	151,300	142,056	54,507	50,870
British North America	233,500	216,448	74,783	65,605
Other countries	792,000	868,749	305,748	302,170
Total	5,885,600	5,835,664	2,119,440	1,858,157

BLEACHING POWDER, ETC.

Port.	1892.	1893.	1892.	1893.
	Cwts.	Cwts.	£	£
United States	925,200	786,623	382,076	334,141
Other countries	564,500	541,046	216,573	216,976
Total	1,489,700	1,327,669	598,649	551,107

THE GAS SUPPLY OF LONDON.

THE quality of the gas supplied to the City of London for the week ending January 20th, 1894, was good. According to the report of Mr. W. J. Dibdin, chemist and superintendent gas examiner to the London County Council, the tests made at the various testing stations showed no deficiencies in illuminating power. The following figures have been prepared from the report, and show the average composition of the gas calculated on the mean test :—

Company.	No. of districts tested.	Illuminating power (in stand. sperm candles). Mean average.	Sulphur. Grains in 100 cb. ft. Mean average.	Ammonia. Grains in 100 cb. ft. Mean average.	Sulphuretted hydrogen.
Gas Light and Coke Co.	13	16·53	11·15	0·38	Nil.
South Metropolitan Gas Co.	5	16·48	12·30	0·26	Nil.
Commercial Gas Co.	2	16·25	7·30	0·35	Nil.

The supply for the week ending January 27th was also good :—

Company.	No. of districts tested.	Illuminating power (in stand. sperm candles). Mean average.	Sulphur. Grains in 100 cb. ft. Mean average.	Ammonia. Grains in 100 cb. ft. Mean average.	Sulphuretted Hydrogen
Gas Light and Coke Co.	14	16·3	10·90	0·32	Nil.
South Metropolitan Gas Co.	5	16·54	11·94	0·32	Nil.
Commercial Gas Co.	2	16·25	9·95	0·25	Nil.

The standard gas supplied by these companies should have an illuminating power of 16 sperm candles, and contain not more than 22 grains of sulphur and 4 grains of ammonia per 100 cub. ft. of gas, on an average of three days, with a pressure of one inch between sunset and midnight, and six-tenths of an inch between midnight and sunset.

Correspondence.

ACETATE OF LIME AND GLUCOSE.

(To the Editor of the Chemical Trade Journal.)

SIR,- I should be glad if any of your correspondents could inform me through your *Journal* what are the principal uses of glucose and acetate of lime.

Thanking you to insert this query as early as possible.—Yours, etc.,

J. H. C.

ANSWERS TO CORRESPONDENTS.

A. G., FUR CHEM. IND.—We are obliged to you.

QUERY.—Yes. We could also tell you a few perhaps.

W. C.—We hope you found the information you wanted.

G. K. AND CO.—12s. 6d. per annum, post free.

G C. (Milan).—Yes ; we shall be pleased to do so.

B. K. AND CO.—It has been attended to.

CONSTANT READER.—We intended writing, but found we neither had name nor address, hence delay. The nearest we can recommend for your purpose is a treatise by Dr. Griffiths, published by Whittaker and Co., Paternoster-square, London. A more suitable work we believe is in the Press.

THE APPLICATION OF CHEMISTRY TO TANNING.

By PROF. SADTLER.

ONE of the industries in which great changes have been made in the last few years, owing to the introduction of new chemical processes, is the tanning and leather industry. While the tanning of heavy leather has been improved by the widespread introduction of oak and hemlock bark extracts of definite and uniform composition, it is in the tanning of lighter leathers, such as calf and kid, that the greatest advances have been made For these, the "dongola" tanning and the newer "chrome" or mineral tanning processes have almost entirely displaced older methods. The dongola process is a combination process using gambier, alum, and salt, together, in the same liquor, and following the tanning proper by a treatment of the leather with "fat liquor," or oil emulsified with borax or soda solution.

It is, however, the successful introduction of the mineral tanning processes which is now revolutionizing the manufacture of lighter leathers in America. The process generally in use at present involves treating the skins at first with a weak solution of bichromate of potash, to which sufficient hydrochloric acid is added to liberate the chromic acid. After the skins have taken up a bright yellow colour through their entire texture, they are drained and transferred to a bath of hyposulphite of soda, to which some acid is added to liberate sulphurous acid, which reduces the chromic acid to green chrome oxide, while the sulphurous acid is at the same time oxidized to sulphuric acid, which liberates a further portion of sulphurous acid until the whole of the chromic acid is reduced. The leather so produced is of a pale bluish-green colour, tough and flexible, and thoroughly resistant to water. Indeed, it is this latter property which distinguishes it from all other forms of leather, as the combination of the hide fibre or coriin with the chromium oxide is apparently more stable than its combination with tannin, and yields less to boiling water. The leather also can be dyed and produced in a variety of colours, but the dyeing must be done before the leather dries, as its water repellant character is such that once dried it cannot be wetted sufficiently to take up a full colour. The process is now carried out at several morocco tanneries on a very large scale, and with perfectly satisfactory results.

Chrome-tanning processes involving the use of chrome alum and other salts of the sesquioxide of chromium as the basis of the tanning vat have been used, but apparently the combination does not take place so readily as where the chromium oxide is obtained in *statu nascendi* by reduction from the bichromate under the influence of reducing agents. Basic chromium salts have also been recently proposed as mineral tanning agents, but of their practical success I cannot speak from personal knowledge. That mineral tanned leather has taken a strong hold upon the industry was made evident by the many and fine exhibits of such leather at the recent Chicago exhibition.

A. G. FUR CHEMISCHE INDUSTRIE MANNHEIM.- We notice in *Frühlings-Blätter*, a well illustrated and interesting account of the works of this firm which are situated at Rheinau, near Mannheim. Though only founded in 1886, this firm now has branch works at Barmen, and the value of their annual output amounts to £250,000. The chief articles manufactured are compressed ammonia, sulphurous and carbonic acid gases ; also technical and pharmaceutical chemicals. The works employ 250 hands under the direction of a staff of 50.

IMPORTS AND EXPORTS FOR JANUARY

THE Board of Trade returns for the past month are more enco than the returns for the last few months have been. In t ports notable increases are found in metals and oils, while exports, the shipments of wood pulp seem to show that the gradually supplanting esparto.

IMPORTS OF FOREIGN AND COLONIAL PRODUCE.

ARTICLES.	Quantiti 1893.	
Margarine ..... Cwt.	129,798	1
Copper ore and regulus .....Tons.	15,793	
Hides—dry and wet ..... Cwt.	57,090	
Nitrate of soda..... .....Tons.	1,787	
Tallow and stearine ..... Cwt.	139,925	1
Tin ..... Cwt.	30,179	

EXPORTS OF BRITISH AND IRISH MANUFACTURES.

ARTICLES.	Quantitie 1893.	
Alkali .... Cwt.	552,303	4
Cement .. ..Tons.	22,974	
Coal and Coke .....Tons.	2,124,821	2,6
Copper—all kinds ..... Cwt.	96,080	
Iron and Steel.....Tons.	197,616	1
Chemical Manures .....Tons.	25,347	
Oils—seed .....Tons.	5,795	
Salt .....Tons.	41,971	

WELDLESS STEEL CHAINS.

THE great strength and ductility of steel have always pointe as a most desirable material for the manufacture of chain fortunately, it possesses the disadvantage of not being weldable, chains have, for the most part, to be made of wrought iron a link welded up when linked within the other. The results, h are not altogether satisfactory, a weak chain being produced pared with steel size for size, and one, moveover, having a joi will sometimes give out and lead to accident. Attempts ha made from time to time to utilise steel for chain-making, and i the later inventions in this direction a chain is produced out of a steel, each link being formed solid and linked in with its neig In the manufacture the steel has to be heated, and, although an lent chain is produced, the links are what are called open link is, they have no stay or cross-piece as in links of the cable Stays are added afterwards, but they do not form an integral pa link. A subsequent inventor, M. Rougier, has, however, succe forming the stay or stud with the link itself, the chain being out of the solid bar, and this appears to give the finishing touc manufacture of weldless steel stayed chains. The method of pr as practised at the works of the Patent Weldless Chain Com Aston, Birmingham, is very ingenious The chain is made fro bar of cruciform section, and of the greatest length obtainable bar is put through a series of machines, in each of which pi punched out, so that after five operations the links are perfectly but are still connected together at the point where the inner sid bow of one link crosses that of the other. In fact, the bar re a rigid chain, but on being passed through another machine out as a roughly-formed but perfect chain with separated link chain then undergoes three more operations, in which it is r rounded, and finished ready for use. The process is a cold that there is no deterioration of the metal by heating, the o applied being near the end of manufacture, when the chain is a in an oven for a short time. Owing to the limited length of the chain has to be made in sections, and eventually couple special links, which are made stronger than the chain itself. chains. which are suitable for general use, are produced in vario from ½in. down to 3-32in. Some of the ½in. chains made fr having a tensile strength of 24 tons per square inch were tested at proving house, and broke at 11t. 19c. 1q. 0lb, being 163 per ce the Admiralty test. In addition to the greater strength of stayed steel chains over welded iron chains, they possess sever advantages. Being produced by machinery, all the links in each of the chain are exactly similar. Greatly reduced weight f length and strength of chain is also a point of importance to well as to shippers.

PREVENTING THE DISCOLOURATION OF FACING BRICKS.

NEARLY all clay contains salts, soluble in water; of these, the Sulphuric Acid Salts, which are present in very fluctuating quantities in the clay used for bricks, terra cotta, &c., are the most objectionable, as they cause scum and consequent discoloration. Most elaborate and costly alterations of kilns, &c., have often been made without effecting any cure of the evil. The cause is not in the burning or construction of the kilns, but is to be found in the fact that scum and discolouration are already on the surface, before the bricks, &c, enter the kiln.

The soluble salts present in the clay, or introduced with the water used, find their way to the surface and on evaporation of the water are left there and remain. This causes a discoloration of the surface, which is sometimes barely perceptible in air-dried bricks, &c., and which often only close examination reveals. After the burning, however, this scum, usually white or gray, is plainly visible, and more so, the darker the colour is of the burnt material. If the material is only lightly burnt, the scum will often retain its soluble character and will disappear through washing or rain, but if the material is well burnt, the scum intermixes with the clay and cannot be removed by water or even weak solutions of acid.

The explanation, why discoloration takes place in such various forms and degrees, often causing no difficulty at all, at other times very marked, although the same material be used, is not always easy to find, simply because the discoloration can be due not alone to the soluble salts contained in the material, but also to the process of manufacture. Under certain conditions a very small quantity of soluble salts may cause very objectionable discoloration, whilst a large proportion of soluble salts may in other cases cause but little or no difficulty.

It is therefore by no means sufficient to calculate the required quantity of any substance to be added on the basis of an analysis, but it is important and necessary to consider carefully everything, which in the process of manufacture bears on the question of a good colour of the burnt material and to apply remedies, where alone they can succeed.

To overcome the difficulties which arise through the presence of these soluble salts Carbonate of Barytes has been used.

Excellent and complete as the action of Carbonate of Barytes is, as a cure for scum and discoloration from the chemical point of view, the practical man will nevertheless rarely obtain the desired result, if he adds the Carbonate of Barytes at random.

In the first place, the purity of the Barytes has an effect, and also the fineness of its division, so as to allow assimilation to take place readily. A most important advance in the rational use of this preventive has been made by Messrs. W. Feld & Co., who produce an artificial and precipitated Carbonate of Barytes of a fineness and power of action which could scarcely be attained by the highest possible state of fineness of the mineral product (apart from the great expense of grinding), containing from 96 to 98 per cent. of Barytes Carbonate, and which is being introduced into this country by Messrs. Julius Hülsen & Co., of Newcastle-on-Tyne.

As will be seen, it is the amount of Sulphuric Acid (in combination) present in the clay and water which must be ascertained. This can easily be done by any chemist, and his finding should be the basis of immediate experiments on a small scale with Carbonate of Barytes, of which 2·2 parts to every 1 part of Sulphuric Acid are necessary to neutralise the acid and to render it harmless. A practical illustration will make this clear.

Assuming a chemist finds that a sample of air-dried bricks, &c, ready for the kiln, contains say 0·1% Sulphuric Acid, equal to 1 in 1,000, we shall then require:—

2·2 lbs. or 2 lbs. 3½ oz. Carb. Barytes for every 1,000 lbs. of air-dried clay;

Equal to about 4 lbs. and 15 oz., or say 5 lbs. Carb. Barytes for every 1 ton of air-dried clay;

Or 4 oz. Carb. Barytes for every 1 cwt. of air-dried clay.

Experiments could then be made, starting with the chemist's test, in the following manner:—

Prepare in the usual way, with usual clay and usual water, and weigh sufficient clay to make 10 to 15 bricks, divide this in five lots of equal weights, each sufficient for two or three bricks, and add Carbonate of Barytes to each lot (by sprinkling it evenly over and mixing it well in) in the following proportions:—

To sample	Lot 1	add Carb. Barytes	in	proportion of	1 oz.	per ¼ cwt.	clay.
,,	2	,,	,,	,,	2 oz.	,,	,,
,,	3	,,	,,	,,	3 oz.	,,	,,
,,	4	,,	,,	,,	4 oz.	,,	,,
,,	5	,,	,,	,,	5 oz.	,,	,,

Then treat the material in the usual way, and mark the different lots 1 to 5 before they go to the kiln. As the bricks are taken from the kiln, their appearance will at once show within which limits the necessary quantity of Barytes Carbonate is. For instance, if lot No. 2 is not quite free from scum, and No 3 is free but not so good in colour as No. 4 or 5, then the quantity of Barytes Carbonate required would be that used for No. 4 or No. 5.

Once the necessary quantity is ascertained, a truck or barrow load can, to simplify matters, be weighed, and the requisite quantity calculated per truck or barrow-load

Provided such quantity of Carbonate of Barytes be added to the clay, which is necessary to decompose the soluble salts, and provided the Carbonate of Barytes is of the best quality and the highest degree of fineness, to ensure thorough and complete action, satisfactory results will always be obtained, that is, the burnt material will always be free from scum and discoloration, and of good colour, while complaints about discoloration, for which the method of burning is frequently and wrongly blamed will cease.

THE AERIAL OXIDATION OF TERPENES AND ESSENTIAL OILS.

By C. T. Kingzett.

IN a paper on this subject read before the Chemical Society on Thursday, Kingzett reviews his previously-published investigations, and gives the results of a further lengthened inquiry concerning the limited oxidation of American, Russian, and French oils of turpentine, as also camphor oil and oils of eucalyptus. All essential oils containing terpenes yield upon oxidation with air, with or without the presence of water, an organic peroxide, which is held in solution in the oxidised oil. This so-called camphoric peroxide, which has not yet been isolated, suffers chemical change by contact with water, and peroxide of hydrogen is always produced therefrom; so that when the oxidation takes place in the presence of water not only is the oil oxidised, but peroxide of hydrogen is found present in the aqueous solution, accompanied by at least two other compounds, one of which has the composition corresponding to the chemical formula $C_{10}H_{16}O_8$, whilst the other resembles Thymol ($C_{10}H_{14}O$) in composition and some properties. It has not, however, been obtained in solid form, but only as an oily body. The author is still doubtful whether the body $C_{10}H_{16}O_8$, and the H_2O_2, are produced by one and the same chemical change. Cymene is obtained from the body $C_{10}H_{16}O_8$ by distillation of an aqueous solution mixed with dilute sulphuric acid. The body $C_{10}H_{16}O_8$ has some powers of loose combination, and is somewhat unstable; its equeous solutions when heated gives evidence of decomposition (by hydration and dehydration) as other substances of indefinite composition have been isolated by the author and analysed. As for the oxidised oils, they yield from 40 to 50 per cent. of solid residue when evaporated down at 100°C., and the resulting substance upon analysis corresponds in composition with the empirical formula $C_{10}H_{14}O_2$. When this is digested with water, a substance passes into solution which may be a hydrate, as its composition approximates fairly closely with the formula $C_{10}H_{16}O_8$ This last-named substance is, however, sweet to the taste, whereas the body of the same composition prepared as previously referred to, is very bitter: hence the author is not satisfied of their identity.

If, instead of evaporating the oxidised oils in open vessels, they be distilled at 60°C. or 100°C, there can be isolated at certain stages of the process (after the unoxidised and unaltered hydrocarbons have passed over) small amounts of two substances, one of which apparently corresponds in composition to Sobrerone $C_{10}H_{16}O$ and the other of which appears to be $C_{10}H_{16}O_2$.

The organic peroxide which is originally contained in the oxidised oils is, however, destroyed by maintaining them for a prolonged period at these temperatures, as is evidenced by the fact that the residual portions give little or no peroxide of hydrogen when treated with water. The author believes that in the limited oxidation (by air) of essential oils, the Terpene grouping is not broken down, for he has ascertained by special investigation that the acetic acid which sometimes accompanies the other products when the process is conducted in the presence of water is not observed to be present, if only pure or refined oils are employed, and he has not met with any product which can be assumed to contain less than ten atoms of carbon in the molecule. In connection with the oxidation of American turpentine oil, a remarkable product is described, the formation of which was first observed by Woodcock in New York, but which the author has since prepared in England and subjected to repeated analyses. Its composition corresponds percentically to the formula $C_{20}H_{27}O_8$, and the substance, which is nearly white and amorphous, is insoluble in all liquids that have been tried excepting chloroform and carbon-disulphide. The author does not intend to continue the investigation, but he hopes it may now be taken up by some other chemists whom he will be most pleased to supply with any quantities of the chief products of oxidation.

RECENT CUSTOMS' DECISIONS.

SODIUM BENZOATE.

IN the matter of the protest of Merck and Co., against the decision of the Collector of Customs at New York as to the rate and amount of duties chargeable on certain sodium benzoate, imported October 24th, 1892, the following is the opinion by General Appraiser Wilkinson :—

The merchandise consists of sodium benzoate and hydroquinone.

The Collector states that he will reliquidate the entry as regards the hydroquinone in accordance with the claim of the appellants and the previous decision of the Board, and such reliquidation is hereby authorised.

We find that the sodium benzoate is a medicinal preparation not containing alcohol, and in the preparation of which alcohol was not used. The claim that it is dutiable as a coal tar preparation at 20 per cent. is over-ruled, and the assessment of duty at 25 per cent. under paragraph 75 N. T. is affirmed.

ACETATE OF COPPER OR VERDIGRIS.

In the matter of the protests of Charles Cooper and Co. and the Roessler and Hasslacher Chemical Co., against the decision of the Collector of Customs at New York as to the rate and amount of duties chargeable on certain acetate of copper, or verdigris, imported March 20th and April 17th, 1893, the following is the opinion by General Appraiser Wilkinson :—

We find : 1. The merchandise is acetate of copper.

2. It is commercially known as verdigris.

Paragraph 749, N. T., exempts from duty "verdigris, or subacetate of copper." The tariff of 1874 contained this exemption, but placed a duty of 10 cents a pound on "acetate of copper."

We are of the opinion that the only verdigris entitled to free admission is that which is subacetate of copper. The protests are over-ruled accordingly.

COAL DUST IN MINES.

A BLUE-BOOK has been issued, containing a report made by Mr. Henry Hall, one of Her Majesty's Inspectors of Mines, to the Royal Commission on Explosions from Coal Dust in Mines, giving the result of a series of experiments made with coal dust collected from the principal seams in various mining districts Altogether 52 samples were received, and (with the exception of four or five) all were tested in a mine shaft placed at Mr. Hall's disposal by the proprietors of the White Moss Colliery, Skelmersdale, a wrought-iron cannon being used for the gunpowder shots. Mr. Hall says that the phenomena presented by these experiments as they progressed, and a careful examination of the detailed results, warrant the following conclusions :—(1) That the flame from a blowing-out gunpowder shot in the presence of dry coal dust always ignites more or less of such dust, and so increases the burning and charring effects of the shot ; (2) That when a large flame, such as that of a blowing-out gunpowder shot, or the flame from the ignition of a small quantity of firedamp, traverses an atmosphere containing a very moderate quantity of dry coal dust, the dusty atmosphere will explode with great violence, and the explosion will continue on and pass throughout any length of such atmosphere, its violence and force increasing as it progresses ; (3) That coal dust from several seams in different districts, notably those from Glamorgan, Monmouth, Durham, Lancashire, Yorkshire, and Scotland, are almost as sensitive to explosion as gunpowder itself ; (4) That coal dust is, as a rule, more sensitive to explosion in proportion to its high quality and freedom from impurities ; (5) That a ready supply of oxygen, such as is supplied by a brisk ventilation, has the effect of making coal dust explosions more probable and more severe ; (6) That certain "high explosives" are incapable of igniting or exploding coal dust. Of the whole of the dusts tested, that from the Albion Colliery, Glamorgan (Aberdare or Merthyr 4 ft. seam or upper 4 ft.), excelled all others in violence and sensitiveness to explosion, and this seam has the worst history of any in the Kingdom, upwards of 1,600 persons having been killed in it by explosions since the year 1845. It was also evident from the experiments that the higher the quality of the coal seam the more liability there is to explosions of dust. With regard to precautionary measures to be taken in the face of these facts, Mr. Hall urges the total abolition of gunpowder from coal mines, and the substitution of certain "high explosives." Many of the largest firms in the country have, he says, already of their own motion taken this step.

THE SALT UNION EXTEND.—The Salt Union Limited, with the view of increasing their facilities for shipping salt, have purchased a site on the north side of the river Tees, at Port Clarence, whereon to erect staithes. The cost of the staithes, railway approaches, cranes, etc., is estimated at £50,000.

Trade Notes.

DIVIDENDS.—The Liverpool Nitrate Co., Ltd., has dis ten per cent. bonus to shareholders. The Phospho Guano has also declared a dividend of 7s. 6d. per share for the past carries forward £4,452.

SLUDGE-PRESSING MACHINERY.—The Sale Public Wo mittee has accepted the tender of Messrs. Goddard, M Wardell, of Nottingham, to provide sludge-pressing mac connection with the township sewage works, for the sum of £

THE PAPER-MILL WORKERS' UNION.—A new branc National Union of Paper-mill Workers, the headquarters of in Manchester, was formed in Barnsley last week, at attended by about sixty workers. Mr. William Ross, of M the general secretary of the union, was present.

MARGARINE FOR BUTTER.—James Booth, a well-known Bury-street, Heywood, was summoned recently for selling for butter. Superintendent Noblett said the defendant s butter a pound of margarine. It contained 17 per cent. of 60 of fat other than butter. The defendant denied knowl adulteration. He was fined 6s. and costs, including th analyst.

CHEMICALLY ENGRAVING WOOD.—Having observed th acid bichromates on wood, Mons. Delaurier proposes to etch coating the block with a resisting varnish, the design being with a point as when engraving on metal, and then etching wood by immersion in the following mixture : Sulphuric aci soda bichromate, 1 part ; water, 6 parts. M. Delaurier has experiment with perfect success.

A STATUE TO LAVOISIER.—As the date of the layi foundation stone of the Institute of Chemistry and Faculty o at Bucharest, Roumania, which is fixed for the spring of coincides with the centenary of the death of Lavoisier, it has cided to erect a statue of this great chemist in the front of the Any persons interested are invited to apply to Dr. C. Istrati, of the Soc. des Sciences Phisiques, Bucharest.

PROFESSOR TYNDALL'S BIOGRAPHY.—Preparations are b for a biography of the late Professor Tyndall, and it is exp work will be completed for the winter or spring season. A of material is in hand, but Mrs. Tyndall is desirous of making very comprehensive, and she is endeavouring to collect all of any importance written by her husband. He was an a careful letter writer, and the response to Mrs. Tyndall's a probably bring in a good deal of interesting material.

OBITUARY —By the death of Mr. John Galloway, of Limited, the iron trade has suffered a severe loss. The dece known as the "father of the Manchester iron trade," and peculiar incidents of his life certainly made the title a fitting no means a "public man," he was yet well known and h universally respected. He was an intimate friend of Sir H. and practically first put the Bessemer process on its feet, constructing the first manufacturing plant that was put down.

EFFECTS OF THE GALE —During the gale which prev Sunday two chimney stacks were blown down. At D chimney 83 feet high, adjoining Prospect Mill, which is oc Mr. W. Parker, shoddy merchant, was blown down. T penetrated a stable and killed a valuable horse and injured an man named Iveson had a narrow escape. Considerable da done to the engine-house. At Accrington, also a ch yards high, at the Accrington Brick and Tile Works, was blo falling on an adjoining kiln.

DEATH FROM LEAD POISONING.—An inquest was held a ham recently on a girl of 20, who had died of c from lead poisoning. Deceased was employed in the Enamel Works, and having to work from eight to one, an half-past six, without intervals for food, had, with other girl the habit of making tea and toast in the dipping-room unkn manager. A verdict of death from lead poisoning was ret the jury made a recommendation that time should be gi workers to obtain solid refreshment in the mess-room.

PERSONAL.—The gross value and net value of the estate o Mr. G. A. Phillips, of Pendleton, of the firm of David Thon soap manufacturers, has been sworn at £116,310. and respectively. The testator's son is to have the option of p the business of soapboiler and chemical manufacturer carr the testator under the style and title of David Thom and Co. goodwill, the benefit of the contracts, the plant and machine including the stock-in-trade and book debts, for £30,000., th of which may be deferred for fourteen years ; and if he elec chase, a sum of £20,000. may be left in the business for the sa both sums to carry interest at the rate of 5 per cent.

Market Reports.

TAR AND AMMONIA PRODUCTS.

Benzol has been rather unsettled during the week, owing to a tendency on the part of 90's to rise and 50/90's to decline. The final result has been that the former has relapsed to the same level as last week, while the latter is a penny easier at 1s. 4d. Anthracene continues without alteration at the old nominal quotations. Crude naphtha, 30%, shows signs of change at 8d., but the same cannot be said in regard to solvent naphtha, 90%, as 1s. 3d. still remains current quotation. Crude, 60%, carbolic acid keeps firm at 1s. 8d., with a fairly good demand. The tendency of pitch towards easier prices has further developed, and value at East coast is now 28s. bare.

So far the action of the "bears" has not had any serious effect upon the position of sulphate of ammonia, and the market keeps steady without any material change in stocks. Makers are in consequence disposed to "bide a wee" before making concessions for forward business. Quotations at the chief points are:—Beckton £14., London outside makes £13. 17s. 6d., Hull £13. 16s. 3d. to £13. 17s. 6d., Leith £14, and Liverpool £13. 17s. 6d. This latter value only applies to spot parcels, as makers will not entertain business at the figure for after March delivery.

REPORT ON MANURE MATERIAL.

During the week the market has been quieter all round, at prices rather favouring buyers. There are sellers of 75/80% Florida phosphate rock at 8¼d. per unit, c.i.f. to United Kingdom ports, and at 9d. per unit to the Continent, and Baltic, shipment 1894, but these prices are a shade above buyers' idea of value. The position of the market in the lower grade rocks is unchanged. Business has been done in cargoes of River Plate bones for Spring shipment at £4. 13s. 9d. per ton, delivered United Kingdom, and £4. 15s is now asked. In the absence of parcels there is nothing doing in crushed East Indian bones. There are sellers of Bombay bone meal, February-March steamer shipment, at £5. 2s. 6d., ex quay, Liverpool, and this price would be taken on spot, ex quay, in quantity. Sales of Mediterranean bones are reported at £4. 12s. 6d. per ton, ex quay Liverpool, which is closing value. Nitrate of soda is perhaps a shade firmer. On spot the quotation for ordinary quality is 9s. 4¼d., and for refined 9s. 6d. per cwt. Due cargoes are worth 9s. 2¼d. to 9s. 3¾d. per cwt., according to size and test. There is nothing to report in miscellaneous material.

MISCELLANEOUS CHEMICAL MARKET.

For alkalies and bleaching powder there is a good, steady demand, and the prices are well maintained both for prompt and forward delivery. Bleaching powder £7. 10s. nett, softwoods, f.o r. makers' works, and £8. f.o.b. Current prices for caustic soda are unchanged, viz:—f.o.b. Tyne, 77%, £11. per ton; f.o.b. Liverpool, 74%, £10. 5s.; 70%, £9. 5s.; 60%, £8. 5s.; cream, 60%, £8. per ton, 10-ton lots and upwards. Ammonia alkali, 58%, £3. 12s. 6d. per ton, bags, at makers' works. Chlorate of potash is quoted for spot sales 7¾d. to 8d. per lb., forward deliveries 7½d. Chlorate of soda 8½d. per lb. Sulphur quiet at £4. to £4. 2s. 6d. per ton, in bulk, f.o.r. makers' works. Saltcake in excess of demand, and price is nominal. For sulphate of copper there is good inquiry at £15s. 5s. to £15. 10s., f.o.b. The demand is good for vitriol and muriatic acids, and prices are steady. In acetates of lime, lead, and soda, supplies are more easily obtainable, and prices are slightly easier on the spot. For potash, caustic and carbonate, there is a strong demand, and prices are firm—carbonate, 90%, c.i.f., £16. 10s. to £16. 15s. per ton. Aniline oil and salt rather lower at 5¾d. and 5½d. per lb. respectively. White powdered arsenic still scarce at £14. per ton, Garston, etc. Oxalic acid 3½d. per lb. Yellow prussiate of potash steady at 10¾d. per lb. Bichromates moving slowly at convention prices. Sulphocyanides are in good request: prices are—barium 5¼d., ammonium 7½d., potassium 7½d. per lb.

THE METAL MARKET.

LONDON, WEDNESDAY.—Pig iron dull: Scotch warrants closed at 43s. 6½d., Middlesbrough 35s. 11½d. cash, and hematite 45s. 4d. Copper, firm: Chili bars, G.O.B.'s and G.M.B.'s, closed at £41. 5s. to £41. 8s. 9d. cash, and £41. 13s. 9d. to £41. 15s. three months. Tin, steady: Straits closed at £69. to £69. 10s. cash, and £69. 17s. 6d. to £70. 7s. 6d. three months; Australian, £69. 5s.; English ingots, £73. 10s. Lead, steady: Spanish, £9. 5s.; English, £9. 7s. 6d. Silesian spelter, ordinary, £15. 5s. to £15. 17s. 6d. Nickel, 1s. 7½d. Antimony, £37. *Copper shares* active: Cape, 1 5/16 to 1 7/16; Copiapo, 1 11/16 to 1 13/16; Libiola, 3⅜ to 3½; Mason and Barry, 2¼ to 2½; Rio Tinto, 14¼ to 14⅜; Tharsis, 4¼ to 5.

LIVERPOOL OIL AND COLOUR MARKET.

WEDNESDAY.

OILS.—Palm oil is dull, with very little doing, though prices are much in favour of buyers. Quotations are subject to considerable variations. Olive is in rather better request, with a tendency towards a firmer market. Prices are £31. 10s. to £38. per tun, according to quality. Linseed is stronger, and Liverpool makes are now firm at 21s. to 21s. 6d. per cwt. Cottonseed has ruled easier during the week, but is inclined to be steadier again. Prices for Liverpool refined, however, are still 20s. 6d. to 22s. per cwt. Castor oil moves pretty freely, but is likely to be easier soon. Good seconds Calcutta has met with a fairly good inquiry at 2⅜d. to 2 7/16d. per lb., spot. First pressure French is reported as having sold at 2½d. per lb., ex quay. Tallow is still scarce, and business slow, owing to lack of purchasers at the high figures ruling. The demand for resin is rather slacker, but holders adhere firmly at their quotations. There has been pretty well of business doing in spirits of turpentine at 23s. 6d. per cwt. on spot, and the market closed firm. Petroleum does not move very freely at the reduced values of 4⅛d. to 5½d. for American, and 3½d. to 3⅝d. per gallon for Russian refined.

COLOURS are steady without alteration in prices. Ochres: Oxfordshire, common, £10., medium, £12., best, £15.; Derbyshire, common, 40s.; medium, 50s., best, 60s.; Welsh, best, 70s., seconds, 50s., and common, 18s.; Irish, Devonshire, 40s. to 45s.; French, J.C., 55s. to 60s.; M.C., 65s. to 67s. 6d. Umber: Turkish quiet; Devonshire, 50s. to 55s. White lead, and oxide of zinc unchanged. Venetian red, £6. 10s. to £10. Cobalt: Prepared oxide, 9s. 5d.; black, 9s.; blue, 6s. Zaffres: No. 1, 3s. 6d.; No. 2, 2s. 6d. Oxide of iron: Common, £6.; medium, £10.; finest, £20. Zinc oxide, £23. to £25.

TYNE CHEMICAL REPORT.

TUESDAY.

The Chemical trade has few new features. Soda crystals, £2. 5s. per ton gross weight. Caustic soda, 70%, £9; 76/77%, £10. 15s. to £11., and in strong demand. Sulphur dull at £4. 2s. 6d. per ton. Bleach, £7. 10s. per ton, with rather more business doing.

Bleaching Powder, softs, £7. 10s. per ton, nett; hards, £7. 15s per ton, nett; caustic soda, 76/77%, £10. 15s. per ton, nett; do., 70%, £9. 5s. per ton, nett; recovered sulphur, 2cwt. bags, £4. 2s. 6d. per ton, nett; soda ash, 48%, £3. 15s. per ton, nett; do., 52%, £4. 2s. 6d. per ton, nett; do, 56%, £4. 10s. per ton, nett; alkali, 36%, £3. per ton, nett; white alkali, 48%, £4. 10s per ton, nett; do., 50%, £4. 15s. per ton, nett; do., 52%, £5. per ton, nett; hyposulphite of soda, 5-7 cwt. casks, £5. per ton; do., 1 cwt. kegs, £5. 10s. per ton, nett; silicate of soda, 75° Tw., £2. 15s. per ton, nett; do., 100° Tw., £3. per ton, nett; do., 140° Tw., £3. 17s. 6d. per ton, nett; soda crystals, casks, £2. 5s. per ton gross weight; do., 2 cwt. bags, £2. 5s. 0d. per ton, nett; chlorate of potash, 8½d. per lb., less 6%; pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £4. 2s. 6d. per ton, nett; blanc fixe, £7. 10s. per ton, nett; chloride of barium, £7. 10s. per ton, nett; carbonate of alumina, £28. 15s. per ton, nett; aluminate of soda, £33. 15s. per ton, nett; in 5 ton lots, £28. 10s. per ton, nett.

South Durham Salt is quoted from 9s. to 9s. 6d. per ton f.o.b. Tees, and in fair demand.

Coals.—The Northumbrian steam coal trade is easier to-day, and the recent severe gales having interfered with shipping, there may possibly be short work at some of the collieries. Best Northumbrian steam is quoted 10s. 6d. to 10s. 9d. per ton; small steam, 3s. 6d. per ton; bunker coals dull on a basis of 7s. 6d. per ton; gas coals firm at 7s. 3d. to 8s. 6d. per ton, according to quality.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, TUESDAY.

To-day, it seems the case that sulphate of ammonia for Leith shipment is dearer than at the English ports, and thus contrary to the usual rule. The price is £14., and at that is rather firmer than towards the close of the week, for after the despatch of last report, the market perceptibly weakened. Although having again slightly recovered, the article is not to be called strong, and the continental demand still remains at a minimum. In mineral oil and paraffins there is no change. The expected conference of makers to consider the price of scale for the new season did not come off. There is now no cohesion worth speaking of amongst them, and it looks as if this year, after all, there will be no attempt made at an agreement—not even an informal

one. Scale price remains nominally as before, but the action of individual sellers has to be awaited.

The general market keeps very quiet, and prices are somewhat impressionable, according to the destination intended. Soda crystals are quoted lower, but caustic soda is fairly steady. The others are devoid of special feature.

Chief prices current are:—Soda crystals £2. to £2 5s. nett, Tyne; soda ash £3. 17s. 6d. nett, Tyne; white alkali 48/52° £4. 10s. to £5. nett, Tyne; alum in lump £5. nett, Glasgow; caustic soda, white, 74° £10. 10s., 70/72° £9. 5s., 60/62° £8. 5s., and cream 60/62° £8., all nett, Liverpool; bleaching powder £7. 15s., nett, Tyne; saltcake, 20s.; borax, English refined, £30., and boracic acid, £37. 10s. nett, Glasgow; bicarbonate of soda, 5-cwt. casks, £6. 10s., and 1 cwt. casks £6. 15s. nett, Liverpool; bichromate of potash, 4½d. nett, for Scotch and English deliveries (for export, 4¼d. nett, f.o.b. Glasgow); bichromate of soda, 3¾d. nett, for Scotch and English deliveries (for export, 3½d. nett, f.o.b. Glasgow); chlorate of potash, 8d. less 5%, Liverpool; nitrate of soda, 9s. 6d; sulphate of ammonia, £14., f.o.b. Leith; salammoniac, first and second white, £39. and £37. nett, any port; sulphate of copper, £15. 5s., less 5% Liverpool; paraffin scale, hard 1⅞d, and soft 1⅞d. per lb.; paraffin wax 120° semi-refined 2¾d.; paraffin spirit (naphtha), 4½d. per gallon; paraffin oil (burning), standard No. 1 grade, 5d. at works, for Scotch buyers (English sales, ½d to ¾d. lower); ditto (lubricating) 865° £4. 7s. 6d. to £4. 10s., 885° £4. to £5. 10s., and 890/895° £5. to £6. Week's imports of raw sugar at Greenock were 13,731 bags; also 17,100 cwts. in other packages

HULL PAINT, OIL, AND COLOUR REPORT.

Tuesday.

OILS.—The demand in the market is well maintained, but the margin for seed crushing is becoming so very fine that some crushers are talking of closing their mills until matters become more improved, for they maintain that the present rates are unprofitable. The imports all round continue to show a satisfactory improvement as against same time last year, amongst which are: Linseed 70,458 qrs. against 13,992 qrs. in 1893. rapeseed 17,238 qrs. against 17,380 qrs., cotton-seed 37,138 tons against 38,013 tons, olive oil 2,251 casks against 1,593 casks, rape oil 1,163 casks against 853 casks, oilcakes 5,016 tons against 2,297 tons, tallow 2,904 cwts. against 5,221 cwts., turpentine 1,489 brls. against 1,536 brls, with another cargo now overdue. Bones 957 tons against 850 tons. Linseed oil firm at 19s 3d. naked spot; for February-April or May-August there are buyers at 19s. 1½d., and September-December worth 18s. 4½d. Casks 17s. 6d. and ordinary barrels 22s. 6d per ton extra, and from £1. to £2. per ton extra for boiled and refined. Export for the week 900 cwts. Refined cotton oil, after declining 5s. per ton, closes firm at 18s. 7½d naked spot; and 18s. 9d. the value for Feb.-April, and May-August 19s. 3d. to 19s. 4½d. Export for the week 7,160 cwts. Spirits of turpentine 23s. 6d. per cwt., barrels free. Olive oil unchanged. Rape oil continues good at lower prices. Cod oil £17. 10s. to £19. 10s. per ton. Castor oil, first pressure, 2½d. per lb Pale seal oil £21 per ton. Sod oil, for curriers, &c., from £16 per ton. Brown wool grease £8. per ton. Engine and cylinder oils from 1s. to 2s. per gallon. Petroleum jelly from 26s. per cwt.

CAKES.—A somewhat better feeling pervades the market, with more orders. Linseed cakes a firm market: 95% pure, £8. 12s. 6d. to £8. 15s. per ton; ordinary, £7. 5s. to £7. 10s.; Russians, £7. 15s. to £8 10s; Polish, £8 10s. Cotton cakes firmer; best makes £5. to £5. 2s. 6d. per ton. Rape cakes: East India, £4. 15s.; Black Sea, £4. Oil feeding cakes, £5. 5s per ton.

PAINTS.—These goods are being more inquired for both for home and foreign requirements. Oxide of zinc paint £22. per ton; oxide of iron, dry, from £9. to £18. per ton; Venetian red, dry, in casks free, from £6. to £10. per ton. Red lead, £13 10s. per ton; white lead unchanged. Ready mixed paints in 1, 2, 4, and 7 lb tins from £26. per ton. Oak varnish from 5s. 6d. per gallon. Common black varnish, £5. 10s. per ton in barrels free, f.o.b. or f.o r.

New Companies.

Flesher, Raybould and Company, Limited. Capital £ in shares of £5. each. This company has been formed to p the drysaltery business now carried on by Flesher, Raybould a at Dudley, Worcestershire, and to carry on the same undertal all its branches.

Las Cabesses Manganese Mines, Limited. Capital £2 in shares of £10. each. This company has been formed to certain manganese mines and to carry on the business of smelters, metallurgists, etc. The subscribers to the memoranc association are:—C. Simon, Allèes de Tourney, Bordeaux, industriel; A. Simon, Bordeaux, France, rentier; O. Simc Wool Exchange, London, E.C., rentier; J. W. Swan, Bromley electrical engineer; J. C. Swan, Newcastle, merchant; J. A. D 2, Garden-court, Temple, barrister; J. Craggs, 19a, Coleman London, E.C., chartered accountant.

Mosley and Company, Limited. Capital £11,000. in of £1. each This company has been formed to purchase pate depositing zinc by electricity upon steel, iron or other metal subscribers to the memorandum of association are:—W. Tho Altoft's-terrace, Beeston Hill, Leeds, clerk; Thomas Hainswor Aberdeen-walk, Armley, Leeds, clerk; T. Coombs, 26, Bond Leeds, accountant; W H. Stocks, New-street, Earlesheaton. J Day, 15, Athlone-grove, Armley, Leeds, clerk; T. Naylor, 18 lane, Armley, Leeds, clerk; H. B. Farr, 11, Moorville-place, B hill, Leeds, clerk.

The Patent List.

This list is compiled from Official sources in the Mar Technical Laboratory, under the immediate supervisi George E. Davis and Alfred R. Davis, who report profess upon the value of Chemical Patents.

APPLICATIONS FOR ENGLISH LETTERS PATEN

Manufacture of Illuminating Gas. J. H. R. Dinsmore. 1,856. Jan
Improved Drying Apparatus. O. Hamilton. 1,866. January 29.
Smoke-Consuming Furnaces. W. Lord. 1,889. January 29.
Process and Apparatus for Producing Bichromate and Perman of Potassium. C. M. Pielsticker. 1,905. January 29.
Producing Aluminium Free from Iron and Chromium. W. Klob and M. M. Reicher. 1,915. January 29.
Improved Waterproofing Composition. F. Crosland. 1,948. Janua
Smokeless Powder. V. I. Feeny 1,982. January 30.
Calcining Limestone with Producer Gas. A. J. Boult. 1,991. Jan
Smoke-Consuming Furnaces. E. G. Brewer. 2,002. January 30.
Improved Manufacture of Lead Salts. H. H. Lake. 2,060. Janua
Liquid Glue. G. E. Wiese. 2,079. January 31.
Oil Vapourisers. C. S. Northcote. 2,090. January 31.
The Acid Saponification of Fatty Bodies. E. Petit. 2,132. Janua
Producing Glue and Gelatine from Bones. J. Grillo and M. Sc 2,175. February 1.
Separating Dust from Air or Suspended Matters from Fluic Higginbottom 2,226. February 1.
Transforming Roasted Cements into Powder. Dominique Belloc Bernard. 2,247. February 1.
Reducing and Refining Aluminium, Magnesium, and all other M Elements from their Ores. J. B. Alzugaray. 2,361. February 3.
Desulphurisation of Sodium Sulphate. J. Pedder. 2,373. Februar
Carrying Sewage, &c., Down Rivers Without Polluting the W the Same. J. Montgomery. 2,403. February 3.
Improvements in Gas Purification Apparatus. F. H. Bacon Donkin. 2,426. February 3.

Gazette Notices.

PARTNERSHIP DISSOLVED.

T. E. Horton, J. R. Horton, and J Sharples, lime, limestone, a manufacturers and merchants Steetley and Shireoaks, near Worksop the style of the Steetley Lime Co. (formerly the Steetley Lime and Stone Co.), as far as regards J. Sharples.

IMPORTS OF CHEMICAL PRODUCTS

AT

THE PRINCIPAL PORTS OF THE UNITED KINGDOM

LONDON.

Week ending February 3rd.

Acetic Acid—

Holland,	61 pkgs.	Beresford & Co.
Belgium,	2	Leach & Co.
Holland,	100	A. & M. Zimmermann

Alum—

Holland,	2 pkgs.	J. M. Steel & Co.
Germany,	32	Ohlenschlager Brs.

Aluminium—

Germany,	£96	Major & Field

Ammonia—

Germany,	4 pkgs.	Beresford & Co.

Antimony Ore—

Japan,	30 t.	R. Warner & Co.
France,	13	Vivian, Younger, & Co.
Australia,	12	,,
,,	11	Stobbs, Wilson, & Co.

Asbestos—

Belgium,	£73	T. Palmer

Barium Chloride—

Germany,	24 pkgs.	Petri Brs.

Barytes—

Holland,	20 bgs.	Col
Belgium,	21 cks.	P.
,,	23	
,,	24	W. Harriso
,,	42	Hemingwa
Germany,	22	Magee, Taylo

Camphor—
Germany, 1 cs. L. & I. D. Jt. Co.
" 2 W. M. Smith & Sons
Hong Kong, 100 Lewis & Peat
" 78 S. Figgis & Co.
Japan, 82 tbs. "
" 124 L. & I. D. Jt. Co.

Caoutchouc—
Columbia, 78 c. Prop. Bull Wf.
France. 25 "
Argentine, 198 "
Germany, 8 "
" 43 Wallace Brs.
" 13 Anderson, Weber, & Smith
" 36 L. & I D. Jt. Co.
Zanzibar, 6 "
Aden, 5 "
E. Indies, 40 "
P. E. Africa, 14 "
France, 15 H. Johnson & Son
" 1 Flageollet & Co
Zanzibar, 6 Clarke & Smith
Ibo, 12 W. M. Smith & Sons

Castor Oil—
France, 6 brls. Beresford & Co.
" 85 J. T. Morton
" 35 Lucas & Spencer's Wf., Ltd
" 38 cks. J. Greig
" 6 E Arbib & Co.
Italy, 25 cs. G. S. N. Co.
" 10 Hodgkinson, Preston, & Co.
" 5 Potter & Clarke
E. Indies, 100 Anderson, Weber, & Smith
" 10 W. Balchin
Belgium, 70 Fuerst Bros.

Caustic Potash—
Holland, 111 c. J. M. Steel & Co.

Chemicals (*otherwise undescribed*)
Germany, 54 pkgs. T. H. Lee
" 100 A. & M Zimmermann
" 1 H. Lorenz
" £6 Krayer, Back, & Co.
" 10 Hopcraft & Broadwater
" 5 Phillipps & Graves
" 17 Major & Field
Belgium, 1 pkge. T. Palmer
" 4 cks. T. H. Lee
Holland, 10 F. Boehm
Germany, £12 W. J. Fox

Cream of Tartar—
France, 5 pkgs F. C. Devon & Co.
" 10 M. Ashby, Ltd.
" 20 B. & F. Wf. Co., Ltd
" 40 H. W. Peabody & Co.
" 17 W. C. Bacon & Co.
Spain, 8 "

Cyanic Acid—
Holland, 15 pkgs. F. Boehm

Dyestuffs—
Aniline
Belgium, 8 pkgs. R. G. Jones Price & Co.
Anthracene
Holland, 332 cks. 279 pkgs. Burt, Boulton, & Co.
Argols
Italy, 29 pkgs. Thames S. T. & L. Co., Ltd.
Cape, 8 J. R. Thomson & Co.
Cochineal
Canaries, 3 pkgs. W. M. Smith & Sons
" 8 Johnson, Hicks, & Co.
Cutch
E. Indies, 100 pkgs. Ross & Deering
Extracts
Austria, 72 pkgs. J. Graves
France, 5 G. S. N. Co.
" 40 T. H. Lee
Germany, 4 "
" 20 H. Johnson & Sons
France, 575 Boutcher, Mortimore & Co.
Fustic
Jamaica, 27 t. S. Dobree & Sons
Gambier
E. Indies, 174 pkgs. Brinkmann & Co.
Indigo
E. Indies, 309 chts. Elkan & Co.
" 23 Croysdale & Co.
" 14 Walker, Munsie & Co.
" 99 Park, Macfadyen, & Co.
" 164 L. & I. D. Jt. Co.
" 17 Arbuthnot, Latham,
" 37 H. Johnson & Sons
" 71 Williams, Torrey, & Co.
" 56 P. & O. Co.
" 182 Patry & Pasteur
" 8 Parsons & Keith
" 7 Dipnall & Co.
" 10 Herrmann & Co.
" 37 Ralli Brs.
" 10 F. Stahlschmidt & Co.
" 56 Darling Brs
" 24 F. Huth & Co.
" 29 F. W. Heilgers & Co.
" 21 Hutz & Co.
" 10 L. & N.-W. Ry. Co.
" 13 J. Kenyon & Sons
" 2 E. Theodore & Co.
" 28 T. Barlow & Bro.
" 302 Ernsthausen & Co.
" 6 G. Steinthal
Germany, 1 Phillipps & Graves
Logwood
Jamaica, 3 t. Park, Macfadyen & Co.
" 53 S. Dobree & Sons
" 150 G. T. Benton & Sons
" 150 Benekendorff & Co.
Madder
France, 3 cks. Skilbeck Brs.
Myrabolams
E. Indies, 499 pkgs. Darling Brs.
" 1,399 Hoare, Wilson, & Co
" 200 L. & I. D. Jt. Co.
Orchella
Portugal, 125 pkgs. Prop. Bull Wf.
Shumac
Belgium, 150 pkgs. H. Johnson & Son
Italy. 100 F. & L Sitzler
Tanner's Bark
Natal, 33 t. Leach & Co.
" 5 Anning & Cobb
Turmeric
E. Indies, 52 pkgs. Prop. Bull Wf.
" 60 J. Graves

Dyestuffs (*otherwise undescribed*)
A. Turkey, 2 pkgs. M. D. Co.

Farina—
Germany, 50 pkgs. T. H. Lee
" 100 Prop. Scott's Wf.
" 100 J. Barber & Co.
U. States, 10 Pickford & Co.

French Chalk—
Austria, £270 Magee. Taylor, & Co.

Gamboge—
E. Indies, 11 pkgs. 12 cs L. & I. D. Jt. Co.

Glucose—
Germany, 5 pkgs. 45 c. Trier, Meyer, & Co.
U. States, 250 250 "
France, 300 300 "
" 200 200 Barrett, Tagent & Co.
U. States, 700 700 R. G. Hall & Co.
" 500 500 Thames S. T. & L. Co., Ltd.
" 750 750 G. Hedges & Sons
" 150 600 Prop. Chmbln.'s Wf.
" 1,534 3,884 L. Sutro & Co. Ltd.
" 332 332 Fellows, Morton, & Co
" 200 1,118 G. White
" 750 750 J. Barber & Co
" 2,000 2,000 Beresford & Co.
" 500 500 Pearce, Pelley, & Co.
" 500 500 C. F. Webster & Co.
Germany, 25 202 Pillow, Jones, & Co.

Guano—
Peru, 1,475 t. Anglo-Cont. Guano Wks.
Germany, 200 "

Infusorial Earth—
Germany, £12 W. H. Fox

Lead Acetate—
Germany, 35 pkgs. F. Boehm
" 16 Beresford & Co.

Manganese—
Japan, 100 t. J. Greig
" 25 J. Allen & Co.
" 450 Fellows, Morton, & Co., Ltd.

Manure—
Peru, 1,255 t. Anglo-Cont. Guano Wks.
Germany, 200 "
" 50 Perkins & Homer
Uruguay, 20 Goad, Rigg, & Co.
E. Indies, 1,005 Fox, Roy, & Co.
N. Zealand, 10 Vokins & Co.
Chili, 3,200 Montgomery & Co.
U. States, 5 C. A. & H. Nichols
France, 30 J. Burnett & Sons
Holland, 44 H. & E. Abert

Methyl Alcohol—
Germany, 10 dms. L. & I. D. Jt. Co.
U. States, 90 brls J. Kertel

Mica—
Adelaide, £16 W. M. Smith & Sons

Ochre—
France, 4 brls M. D. Co.
" 78 cks. Burrell & Co.
" 215 W. Harrison & Co.
Holland, 11 pkgs. Phillipps & Graves
France, 9 cks. Hemingway & Co
" 4 J. Burnett & Sons

Paraffin Wax—
U. States, 42 brls. G. H. Frank
" 3,514 J. H Usmar & Co.

Phosphate Rock—
France, 340 t. A. Hunter & Co.
U States, 900 West & Penrose
" 2,000 Anglo-Cont. Guano Wks.
Brunswick, 1,200 "

Pitch—
France 5 brls. Poth, Hille, & Co.

Plumbago—
Japan, 249 pkgs. C. A & H. Nichols
Germany, 20 cks. B Gallaway
Ceylon, 98 brls Beresford & Co.
U. States, 1 Kiero, Moakes, & Co
E. Indies, 183 cks. Parry & Co.

Potash—
Canada, 265 c. Charles & Fox

Potassium Carbonate—
France, 120 c. Beresford & Co.

Potassium Sulphate—
France, 21 pkgs. Mead, Son, & Co.

Pyrites—
Spain, 1,000 t. C. L. Vasey & Co.
" 1,650 Naylor, Benzon, & Co.

Rosin—
Germany, 27 brls. H. Lambert

Saltpetre—
Germany, 51 cks. J. Hall & Son
" 229 300 bgs. P. Hecker & Co.
" 720 bgs. W G. Blagden
" 100 Cornwell, Son, & Co.
" 4 cks. Petri Bros.
" 1,000 Anglo-Cont Guano Wks
E. Indies, 611 Co-op L. Assn. Ld.

Sodium Bichromate—
Holland, 73 pkgs. C. Tennant, Sons, & Co

Sodium Chlorate—
France, 135 pkgs. A. Hughes

Starch—
Belgium, 230 pkgs. T. Palmer
" 120 F. Claydon & Co.
" 40 Rosenthal & Co.
France, 328 Prop. Scott's Wf.
Germany, 60 J. Hall, junr, & Co.
" 360 Horne & Co.
Holland, 159 Phillipps & Graves
" 50 Hernu, Peron, & Co.
" 20 T. H. Lee
Belgium, 190 "
" 120 A. B. Curtis & Co.

Stearine—
U. States, 150 bgs. H. Hill & Sons
" 100 cks. G. & J. Nickson & Co.
" 100 Price's Candle Co.
France, 80 Walbaum & Tosetti
" 165 bgs. Beresford & Co.
Belgium, 65 H. Hill & Sons

Sulphur—
Italy, 3 t. G. Boor & Co.

Sulphur Chloride—
Belgium, 14 pkgs. Typke & King

Tartaric Acid—
Holland, 8 pkgs. B. & F. Wf. Co., Ld.

Tin Salts—
Germany, 3 pkgs. H. Lambert

Toluol—
Holland, 19 pkgs. J. Owen

Turpentine—
Savannah, 2,674 brls. Prod. Brokers Co., Ltd.

Ultramarine—
Germany, 24 cks. T. Hamilton
Belgium, 2 brls. W. Harrison & Co.
Holland, 4 cks. Spies Brs., & Co.
" 2 9 cs. Haeffner & Co.
" 5 Hernu, Peron, & Co.
Germany, 5 H. Lambert

Varnish—
U. States, 18 pkgs. Magee, Taylor, & Co.
France, 10 Flageollet & Co

Vermilion—
Hong Kong, 5 cs. R. Warner & Co

White Lead—
Holland, 20 cks. Burrell & Co.
" 100 T. & W. Farmiloe
Germany, 60 "
" 24 Petri Bros.
" 182 M. Ashby, Ltd.
" 49 S. H. Willoughby
Belgium, 9 brls. J L Lyon & Co.
Germany, 11 H Lambert
Holland, 32 Spies Brs. & Co.
" 13 F. Pryor
" 49 Colthurst & Harding

Zinc Oxide—
Holland, 100 brls M. Ashby, Ltd.
" 15 cks J. Owen
" 500 " Soundy & Sons
Germany, 100 pkgs. Prprs Dowgate Dk.
U. States, 1 cs. Davies, Turner, & Co.

LIVERPOOL.

Week ending February 1st.

Ammonia—
New York, 20 tks. Larrinaga & Co.

Antimony Ore—
Antofagasta, 169 sks. A. Gibbs & Son
" 235 bgs. Brownells & Co.

Asbestos—
Rotterdam, 10 bls.

Barytes—
Hamburg, 4 cks.
Antwerp, 42 150 bgs.

Borates—
San Francisco, 1,050 sks.

Borax—
Mollendo 394 sks. A. & S. Henry & Co.
" 200 Phingsthorn
Callao, 300
Antofagasta, 299 bgs.

Caoutchouc—
Havre, 2 pkgs. Cunard S. S. Co. Ld.

Colours—
Hamburg, 2 cks.
Antwerp, 4 brls.
Rotterdam, 1 ck.

Copperas—
Hamburg, 1 ck.

Cottonseed Oil—
New York, 202 brls.

Cream of Tartar—
Tarragona, 5 cks. Sachse & Klemm

Dyestuffs—
Argols
Bordeaux, 197 bgs.
Cochineal
Gr. Canary, 21 bgs. Sperling & Williams
Cutch
Rangoon, 2,351 bxs.
Extracts
Ghent, 30 cks. J. T. Fletcher & Co.
Bordeaux, 195
Havre, 22 Cunard S. S. Co., Ltd.
Indigo
Calcutta, 128 chts.
Madder
Rotterdam, 10 cks.

Myrabolams
Bombay, 1,316 bgs. Forbes, Forbes, & Co.
,, 1,740 A. Salmon & Co., Ltd.
, 5,175 D. Sassoon & Co.
,, 541 Ralli Brs.
,, 1,240 E.D. Sassoon & Co.
,, 3,500
Orchella
San Francisco, 311 brls.
Shumac
Barcelona, 200 bgs.

Farina—
Fiume, 100 bgs.

Glucose—
New York, 330 brls.
Baltimore, 150
Philadelphia, 50
Hamburg, 60 cks.

Gypsum—
Boston, 5 bls. Powell & Schofield

Lime—
Hamburg, 1 cs.

Limestone—
Rouen, 1 crt. R. J Francis & Co.

Magnesium Sulphate—
Boston, 1 bx. Powell & Schofield

Manganese—
Los Vilos, qty.

Mineral White—
Trieste, 200 bgs.

Ochre—
Rouen, 4 cks. R. J. Francis & Co.

Paraffin Scale—
Rangoon, 990 cs.
New York, 861 brls.
,, 800 Standard Oil Co.
Baltimore, 225

Paraffin Wax—
New York, 100 brls.

Phosphate Rock—
Brunswick Ga., 1,201 t.

Potash—
Dunkirk, 6 cks. 20 dms.
Rotterdam, 57
Antwerp, 5

Pyrites—
Huelva, 1,631 t. Matheson & Co

Saltpetre—
Hamburg, 4 cks 40 kgs. 150 bgs. 80brls.

Soap—
Bari, 248 cs.

Soapstone—
Trieste, 200 bgs. W. Harrison

Soda—
Rotterdam, 5 cks.

Sodium Silicate—
Rotterdam, 1 ck.

Sodium Sulphate—
Antwerp, 27 cks.

Starch—
Baltimore, 800 sks. W. Johnston & Co., Ltd.
Philadelphia, 600 bgs.
Hamburg, 128 cs.
Antwerp, 152 J. T. Fletcher & Co.
Rotterdam, 90

Stearine—
Antwerp, 5 bgs. J. T. Fletcher & Co.
,, 12

Talc—
Trieste, 250 bgs.

Tallow—
Boston, 26 hds.
San Francisco, 700 brls.

Tartar—
Bordeaux, 35 cks. 34 bls.

Tincal—
Calcutta, 463 bgs.

Ultramarine—
Rotterdam, 20 pkgs.

Varnish—
Boston, 13 brls. W. H. Staynes & Smith

Verdigris—
Bordeaux, 1 ck.

Waste Salt—
Dunkirk, 100 bgs.
Hamburg, 102

White Lead—
Rotterdam, 33 cks.
Trieste, 10 cs.

Zinc Oxide—
New York, 150 brls.
Antwerp, 7 cs. J. T. Fletcher & Co.
,, 13 brls.
Rotterdam, 100 cks.

Zinc Skimmings—
New York, 297 bgs. 7 cks.

MANCHESTER.

Week ending February 3rd.

Alumina Sulphate—
Rotterdam, 31 cks.

Benzaldehyde—
Rotterdam, 2 cks.

Castor Oil—
Antwerp, 73 cks.

Chemicals (*otherwise undescribed*)
Hamburg, 13 cks. 1 cs. Thompson M'Kay & Co.
Rouen, 100

Chlorine—
Rotterdam, 8 cks.

Colours—
Treport, 3 cs. 5 cks. Fisher, Renwick & Co.
Rotterdam, 14 57 16 bxs. 46 brls.
Hamburg, 26 R. Steinmann & Co.
,, 5 36

Dyestuffs—
Alizarine
Rotterdam, 1 cs. 7 cks. 183 brls.
Logwood
Hamburg, qty.

Farina—
Hamburg, 100 bgs. H. L. Lilley & Co.
,, 100 W. Poppelreuter & Co.

Infusorial Earth—
Hamburg, 1 bg. T. Wainhouse & Co.

Lead Acetate—
Hamburg, 31 cks.

Limestone—
Antwerp, 1 cs.

Nitrate—
Rotterdam, 8 cks.

Palm Oil—
Hamburg, 18 cks.

Pitch—
Rotterdam, 26 cks.

Potash—
Treport, 15 cs. Fisher, Renwick & Co.
Hamburg, 14 cks.

Saltpetre—
Hamburg, 7 cks. J. Woolley, Sons, & Co.
,, 1 30 kgs. 13 brls.

Soda—
Rotterdam, 8 cks.
Antwerp, 18

Sodium—
Rotterdam, 10 cks.

Sodium Sulphate—
Rotterdam, 27 bgs.

Starch—
Antwerp, 212 cs.

Tannic Acid—
Rotterdam, 6 cks.

Tannin—
Hamburg, 1 ck. F. Cunningham & Co.

Tartaric Acid—
Rotterdam, 5 cks.

Ultramarine—
Rotterdam, 2 cs. 26 cks.

Zinc Oxide—
Antwerp, 25 brls.

Zinc Sulphate—
Hamburg, 4 cks.

HULL.

Week ending February 3rd.

Acid—
Rotterdam, 15 cks W. & C. L. Ringrose

Albumen—
Hamburg, 3 cks. Wilson, Sons, & Co., Ld.

Barytes—
Antwerp, 3 cks. Bailey & Leetham
,, 50 bgs.
Bremen, 24 Veltmann & Co.
,, 46 Tudor & Sons
,, 134 Blundell, Spence, & Co.
Rotterdam, 23 ,,
,, 23 Hanger, Watson & Harris
Antwerp, 67

Bleaching Powder—
Antwerp, 21 cks. Wilson, Sons, & Co., Ltd.

Camphor—
Hamburg, 2 cs 2 cks. Wilson, Sons, & Co., Ld.

Cellulose—
Bordeaux, 100 bls. Rawson & Robinson

Chemicals (*otherwise undescribed*)
Hamburg, 44 cks. Wilson, Sons, & Co., Ld.
Bremen, 3 pks. Veltmann & Co.
Antwerp, 153 Wilson, Sons, & Co., Ltd.

Colours—
Rouen, 2 cks.
Hamburg, 1 ck. Wilson, Sons, & Co., Ld.
Flushing, 18 pks. G. Lawson & Sons
,, 5 cs. 30 Hutchinson & Son
Rotterdam, 68 pks. W. & C. L. Ringrose
,, 7 G. Lawson & Sons
,, 5 Todd & Son
Amsterdam, 4 W. & C. L. Ringrose
Antwerp, 2 Bailey & Leetham
,, 1 cs. Storry, Witty, & Co.
Ghent, 9 Wilson, Sons, & Co., Ld
Bremen, 4 Todd & Son
Rotterdam, 2 Hutchinson & Son
Hamburg, 15 G. Malcolm & Son
,, 10
Antwerp, 12

Cottonseed Oil—
New York, 100 brls. Wilson, Sons, & Co., Ld.

Dyestuffs—
Alizarine
Rotterdam, 7 brls. Hutchinson & Son
Logwood
Hamburg, 64 bls. Wilson Sons, & Co., Ld.
Shumac
Bordeaux, 25 bls. Rawson & Robinson

Dyestuffs (*otherwise undescribed*)
Antwerp, 2 cks. Wilson, Sons, & Co., Ld.

Farina—
Ghent, 188 bxs. Wilson, Sons, & Co , Ld.
Hamburg, 100 bgs.

Litharge—
Rotterdam, 6 cks. Storry, Smithson, & Co.

Manure—
Ghent, 250 t. 1,010 bgs. Wilson, Sons, & Co., Ltd.

Paint—
New York, 25 cs. Wilson, Sons, & Co., Ltd.

Potash—
Hamburg, 3 cks. Wilson, Sons, & Co., Ld.

Saltpetre—
Antwerp, 113 bgs. Wilson, Sons, & Co., Ltd.

Sodium Nitrate—
Hamburg, 80 bgs. Wilson, Sons, & Co., Ld.

Starch—
Bremen, 2,235 cs. 1 brl. Veltmann & Co.

Stearine—
Rotterdam, 9 bgs. Wilson, Sons, & Co., Ld.
Antwerp, 9 cks. 75 pks. ,,

Tallow—
Harlingen, 27 cks.

Tartar—
Bordeaux, 1 ck. Rawson & Robinson

Tartaric Acid—
Rotterdam, 4 cks. G. Lawson & Sons
,, 2 Woodhouse & Co.

White Lead—
Antwerp, 134 cks. Bailey & Leetham
Rotterdam, 27 cks. Tudor & Sons
,, 31 Hutchinson & Son

Zinc Oxide—
Rotterdam, 5 cks. Hutchinson & Son

GLASGOW.

Week ending February 8th.

Albumen—
Hamburg, 5 cks.

Alum—
Rotterdam, 36 cks. J. Rankine & Son

Aniline—
Rotterdam, 2 cs. J. Rankine & Son

Arachide Oil—
Rotterdam, 2 cks. J. Rankine & Son

Caoutchouc—
Hamburg, 1 cs.

Castor Oil—
Calcutta, 953 cs.

Chemicals (*otherwise undescribed*)
Rotterdam, 5 cs. J. Rankine & Son

Colours—
Amsterdam, 15 dms.
Rotterdam, 6 cks. 3 bxs. J. Rankine & Son
,, 4 1 cs. 2 pkgs.

Dextrine—
Stettin, 150 bgs.

Dyestuffs—
Alizarine
Rotterdam, 32 cks. J. Rankine & Son
,, 190
Cutch
Rangoon, 750 bxs.
Extracts
Baltimore, 25 brls. J. Dawson & Co.
,, 26 brls. M'Arthur, Scott, & Co.
Rouen, 24 cks.
Havre, 10 cs.
Logwood
Jamaica, 517 t. 11 c. W. Connal & Co.

Farina—
Stettin, 866 bgs.
Delfszyhl, 648

Glucose—
New York, 447 brls.

Indigo Salt—
Rotterdam, 1 ts.

Lead Acetate—
Hamburg, 12 cks.

Ochre—
Baltimore, 107 brls.
Rouen, 95 cks.

Paint—
New York, 2 brls.

Potashes—
Portland, Me., 16 brls. J. Poynter, Son, & M'Donald
Rotterdam, 50 cks. J. Rankine & Son

Pyridine—
Hamburg, 7 cks.

Pyrites—
Huelva, 1,623 t. Tharsis Co.

Rosin—
New York, 802 brls.
Charlestown, S.C., 2,767

Saltpetre—
Hamburg, 15 cks.

—
York, 700 brls.
h—
York, 949 sks. 350 bgs.
w—
, 16 hhds.
r—
, 5 cks.
aux, 29
rdam, 4 J. Rankine & Son
Lead—
rdam, 125 cks. J. Rankine & Son
Oxide—
York, 100 brls.

TYNE.

ek ending February 3rd.

Earth—
burg. 18 cks. Tyne S. S. Co.
um Carbonate—
rdam, 225 bgs.
tes—
werp, 141 bgs. Tyne S. S. Co.
rs—
terdam, 4 cks.

Pyrites—
Huelva, 122 brls.
Saltpetre—
Hamburg, 3 cks. Tyne S. S. Co.
Soap—
Hamburg, 50 cs. Tyne S. S. Co.
Starch—
Rotterdam, 54 cs.
Antwerp, 48 Tyne S. S. Co.
Sulphur Ore—
Pomaron, 1,865 t. Mason & Barry
Superphosphate—
Antwerp, 300 bgs. Tyne S. S. Co.
Varnish—
Antwerp, 3 brls. Tyne S. S. Co.
Zinc Oxide—
Antwerp, 25 brls. Tyne S. S. Co.

GOOLE.

Week ending January 31st.

Alkali—
Calais, 2 cks.
Antimony—
Boulogne, 3 cks.
Caoutchouc—
Boulogne, 7 cks.
Dyestuffs—
Alizarine
Rotterdam, 71 pkgs.
Extracts
Ghent, 50 cks.
Indigo
Rotterdam, 9 chts.
Logwood
St. Lucia, 167 t.
Laguna, 346
Belize, 666
Madder
Rotterdam, 6 cks.
Dyestuffs (*otherwise undescribed*)
Boulogne, 8 cks. 7 cs. 45 pkgs.
Farina—
Hamburg, 500 bgs.
Glucose—
Hamburg, 10 cks.
Lead Acetate—
Rotterdam, 17 cks.
Potash—
Rotterdam, 1 ck.
Dunkirk, 49
Calais, 3 dms.
Antwerp, 23 cks.
Saltpetre—
Rotterdam, 100 bgs.
Antwerp, 85
Soda—
Rotterdam, 2 cks.
Zinc Oxide—
Antwerp, 20 cks.

GRIMSBY.

Week ending February 3rd.

Albumen—
Antwerp, 6 cks.
Caoutchouc—
Antwerp, 3 bls.
Chemicals (*otherwise undescribed*)
Antwerp, 3 cs.
Hamburg, 17
Dyestuffs—
Indigo
Rotterdam, 18 chts.
Dyestuffs (*otherwise undescribed*)
Dieppe, 8 cks.
Size—
Antwerp, 2 cks.
Zinc Ashes—
Antwerp, 16 cks.

EXPORTS OF CHEMICAL PRODUCTS
OF
THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending February 7th.

—
l, 10 cs. £19
Town, 5 t. 9 c. 13 pkgs. 54
Phosphate—
lad, 9 c. £13
—
bay, 12 c. £6
Cruz, 1 t. 10
hama, 56 3 456
adoes, 1 7
erara, 15 6
mbo, 1 3 13
ey, 4 25
bourne, 25 3 118
onia (Liquid)—
burg, 20 cyldrs. £67
onium Carbonate—
edin, 5 c. £11
laide, 10 15
bourne, 5 8
onium Chloride—
rgas, 15 c. £25
yres, 2 cks. 1 cs. 23
nica, 2 t. 5 80
bourne, 1 3 28
rna, 1 12 53
bizonde, 15 27
onium Sulphate—
John's, N.B., 1 t. £14
exarn, 106 12 c. 1,346
terdam, 50 18 725
cic Acid—
bourne, 7 cks. £81
x—
mantle, 5 c £7
rio, 6 cks. 16
al, 2 t. 8 74
terbury, 5 8
a Bay, 20 kgs. 40
bourne, 20 30
nburg, 6 cks. 45
c Sulphate—
kland, 5 c. £12
olic Acid—
altar, 1 t. 2 c. £18
erdam, 50 cks. 203
on Bisulphide—
yres, 200 dms. £100
ideo, 10 cs. 12
tic Potash—
ney, 1 t. 10 c. £31
bourne, 19 23
tic Soda—
bourne, 13 c. £19
ney, 5 t. 16 63
al, 3 11 82
a Bay, 1 4 39
terbury, 10 10

Chemicals (*otherwise undescribed*)
Bombay, 9 c. £18
Bogota, 2 cs. 7
Gibraltar, 4 29
Natal, 37 pkgs. 14
Chloride of Lime—
Melbourne 5 t. 12 c. £59
Citric Acid—
Rotterdam, 1 t. 5 c. £190
Reval, 10 2 cks. 150
Brussels, 10 70
Hamburg, 2 kgs. 1 53
Bombay, 2 15
Genoa, 1 1 151
Barcelona, 4 155
Coal Products—
Aniline
Sydney, 1 cs. £20
Shanghai, 15 94
Aniline Oil
Rotterdam, 12 dms. £350
Anthracene
Rotterdam, 92 cks. £560
Benzol
Hamburg, 30 dms. £251
Boulogne, 20 puns. 166
Rotterdam, 20 148
Coal Tar Dyes
Boston, 7 pkgs. 3 cks. £142
Creosote
Huelva, 4,200 brls. £1,663
Naphtha
Treport, 24 brls. £80
Naphthaline
Antwerp, 2 cks. £6
Marseilles, 39 50
Paraffin Wax
Fremantle, 20 cs. £57
Pitch
Alexandria, 550 brls. £169
Tar
Natal, 298 dms. £46
Newfairwater, 250 brls. 125
Tar Oil
Treport, 22 cks. £66
Toluol
Hamburg, 10 puns. £114
Treport, 26 cks. 90
Rotterdam, 19 170
Coal Products (*otherwise under.*)
Ghent, 6 dms. £40
Compressed Oxygen—
M. Video, 3 cs. £16
Copperas—
Varna, 17 t. 9 c. £28
Copper Sulphate—
Lyttelton, 2 t. £32
Colombo, 8 c. 8
Cream of Tartar—
Lyttelton, 2 t. 15 c. £199
Wellington, 13 46
Fremantle, 2 7
Sydney, 3 5 219
Melbourne 2 134
Algoa Bay, 5 17
Disinfectants—
Bombay, 50 dms. £16
Penang, 150 85
Canterbury, 11 cs. 21
B. Ayres, 19 c. 51
Flowers of Sulphur—
Cape Town, 4 t. 9 c. £51
Guano—
Rotterdam, 22 t. 13 c. £185
Hydrochloric Acid—
Trinidad, 2 t. 2 c. £7
Manure—
Demerara, 10 t. £103
Jersey, 25 205
Guadeloupe, 57 15 c. 825
Berbice, 20 205
Malaga, 78 1 625
Stettin, 59 2 210
Nitric Acid—
Madras, 10 cs. 18 c. £176
Oxalic Acid—
Melbourne, 7 c. £10
Phosphate—
Cape Town, 20 t. £56
Phosphoric Acid—
Berbice, 13 cks. £50
Phosphorus—
Dunedin, 21 cs. £220
Lyttelton, 5 51
Potassium Bichromate—
Canterbury, 10 c. £22
Potassium Chlorate—
Yokohama, 1 t. 3 c. £26
Malaga, 5 17
Saltpetre—
Dunedin, 18 c. £21
E. London, 9 10
Nelson, 5 6
Natal, 5 5
Salts of Lime—
Portland, 20 kgs. £208
Sheep Dip—
E. London, 6 cs. £30
Dunedin, 2 t. 7 c. 100
B. Ayres, 1,000 cs. 2,000
Geraldton, 9 21
Sheep Dip and Disinfectants—
Lyttelton, 87 pkgs. £30
New Plymouth, 87 50
Soda—
Demerara, 1 t. 15 c. £6
Natal, 2 9 7
Kingston, Jam., 2 14 10
Soda Crystals—
Zanzibar, 15 c. £4
Cape Town, 1 t. 4
Mauritius, 14 3
Shanghai, 2 4 9
Calcutta, 1 3 5
Singapore, 1 4 5
Sodium Acetate—
Dunedin, 2 t £32
Sodium Bicarbonate—
Auckland, 1 t. £3
Fremantle, 12 c. 6
Barbadoes, 1 5 10
Demerara, 1 8
Sodium Silicate—
Lyttelton, 1 t. 10 c. £6
Sodium Tartrate—
Oporto, 5 c. £17
Sulphur—
St. Lucia, 14 c. £6
Demerara, 4 t. 10 30
Sulphuric Acid—
Colombo, 25 cs. £20
Trinidad, 1 t. 10
Jersey, 6 cbys. 5
Superphosphate—
Rotterdam 344 t. £875
Tartaric Acid—
Invercargill, 2 c. £11
Lyttelton, 10 55
Wellington, 7 37
Fremantle, 2 10
Sydney, 1 t. 5 121
Bombay, 2 10
B. Ayres, 2 13
Melbourne, 1 5 11

LIVERPOOL.

Week ending February 7th.

Alum—
Seville, 4 t. 16 c. 3 q. £24
Melbourne, 2 10
Sydney, 25 135
Penang, 3 19 19
Beyrout, 5 4 26
Havana, 6 15 1 23
Rangoon, 1 8 7
Alexandretta, 4 18 24
Galatz, 5 35
Alexandria, 7 49
Alum Cake—
Calcutta, 11 t. 2 c. 2 q. £33
Alumina Sulphate—
Sydney, 11 t. 16 c. 2 q. £52
Ammonium Carbonate—
Barcelona, 1 t. 2 q. £33
Yokohama, 2 3 c. 1 70
Ammonium Chloride—
La Plata, 10 c. £23
Ancona, 5 9
Piræus, 6 11
Boston, 5 8 114

Ammonium Sulphate—

Valencia,	276 t.	1 c.	1 q.	£3600
Antwerp,	307	17	2	4,065
Nantes,	30	6	1	424
Gr. Canary,	22	10	3	318
Boston,	59	14		831
Demerara,	154	4	1	2,145
Genoa,	50	1	2	701
Bordeaux,	10	1	1	140
Lisbon,	10	4	3	745

Amorphous Phosphorus—

Kobe,	5 c.	2 q.	£80

Bleaching Powder—

Bombay,	30 cs
Boston,	339 cks.
New York,	174
Baltimore,	82
Bremen,	5
Chicago,	61
Genoa,	70
Ghent,	64
Lisbon,	6

Bone Ash—

Taltal,	5 c.	£9

Boracic Acid —

Montreal,		3 c.		£6
New York,	4 t.	7	3 q.	138

Borate of Lime—

Antwerp,	23 t.	18 c.	£270

Borax—

Ghent,	1 t.	
Lisbon,	4 c.	30

Calcium Chloride—

New York,	5 t.	4 c.		£11
Shanghai,	2	5	2 q.	7

Camphor—

Honolulu,	1 cs.

Carbolic Acid—

Rotterdam,		11 c.		£60
Bombay,		12		18
La Plata,		3		6
New York, 6 cks.				54
Calcutta,		4 c.	2 q.	15
St. Louis,	5 t.	12	1	427
Genoa,		5	1	13
Hamburg,	6	4		299

Castor Oil—

Honolulu,	100 dms.
Gr. Bassam,	10 cs.

Caustic Potash—

Sourabaya,	10 c.	£13

Caustic Soda—

Algoa Bay,	20 dms.		
Bahia,	170		
Barcelona,	711	34 cks.	
Brisbane,	15	3 bxs.	1 pkg.
Fiume,	60		
Hamilton, Ont ,	15		
Hong Kong,		3	
Lisbon,	4		
Melbourne,		10	1
New York,	724		
Pernambuco,	55		
Rangoon,	66		
Seville,	360		
Vera Cruz,	250		
Alexandria,	175		
Antwerp,	32	3 brls.	
Baltimore,		135	
Bombay,	11		
Boston,	175		
Bremen,		5	
Cartagena, Sp.,	52		
Cheribon,	5		
Chicago,	62		
Corfu,	40		
Dunedin,	32		
Gibraltar,	2		
Hamburg,	115		
Havana,	110		
Havre,	35		
Hiogo,	110		
Leghorn,	37		
Malaga,	91	10	
Patras,		9	
Philadelphia,	25		
Rotterdam,	112	8	
Stettin,		10	
Tampico,	30		
Valencia,	36		
Valparaiso,	5		
Wellington,	20		

Chemicals (*otherwise undescribed*)

Barcelona,		1 c.	2 q.	£15
Genoa,	3 t.			110
Salaora,		5		9
Volo,		3	1	5
Beyrout,		7	2	13
Venice,		4		7
Mersyne,		3		5
Odessa,	7	16	3	265
Venice,		10		17
Valencia,		19	2	35

China Clay—

Boston,	882 t.	10 c.
Bombay,	60	15
Calcutta,	30	
Canada,	105	
New York,	140 bgs	
Philadelphia,	90	

Chloride of Lime—

Hong Kong,	5 c.	£6

Citric Acid—

Genoa,	5 c.	£37

Coal Products—

Aniline Colours

Shanghai,	25 cs.
New York,	2 11 cks. 10 kgs.

Aniline Oil

Genoa,	12 dms.
New York,	14

Aniline Salts

New York,	40 brls. 60 cs.

Tar

Honolulu,	25 brls.

Cobalt Oxide—

Hamburg,	2 c.	£50

Copperas—

Alexandria,	21 t.	1 c.		£33
Patras,	1	17	1 q.	4

Copper Sulphate—

Genoa,	14 t.	18 c.	2 q.	£234
Bari,	4	19	2	65
Seville,	5			76
Ancona,	15	17	2	272
Venice,	34	11	3	531
Naples,	11	14		181
Leghorn,	27	16		523
Constantinople,	2	1	2	31
Vigo,	10	18	3	165
Lisbon,	3	12	2	56
Talcahuano,	5			80
Trieste,	10	3	3	145
Odessa,	1			16
Brindisi,	1			15
Ancona,	2	15		100
Bari,	4	19		
Leghorn,	4	17	1	85
Genoa,	1		3	

Dextrine—

Calcutta,	6 kgs.

Disinfectants—

Bombay,	7 t.	9 c.		£20
Honolulu,		1	2 q.	6
Oporto.	1	3	3	5

Dried Blood —

Gr. Canary,	10 t.	£79

Guano—

Malaga,	70 t	£560
Valencia,	125	254

Iron Oxide —

Constantinople,	10 t.		£130
B. Ayres,	5	10	86

Lime—

Gaboon,	5 t.	£5
C. C. Castle,	4 10 c	

Litharge—

Taltal,	5 cs.	

Magnesia—

Honolulu,	1 bx.	
Pasages,	14 cs	

Magnesium Sulphate—

Alexandria,	20 kgs.	

Manure—

Valencia,	50 t.	10 c.	3 q	£125
Havre,	200	2	2	625
Gr. Canary,	20			75
Rochefort	350		3	1,934

Muriatic Acid—

Rio Grande,	2 c.	£4

Nitric Acid—

Rio Grande,	2 c.	1 q.	£7

Paint—

Colombo,	2 cks.	
Demerara,	8 180 kgs.	
Esquimalt,		18 dms.
Honolulu,	2 brls. 450	
Lagos,	1	
Maracaibo,	250	
N. Orleans,		50
Pt. Louis,	95	
Rotterdam,		20 cs.
St. Domingo,	63	
St. Jago de Cuba,	3	
Santiago,	4	
Talcahuano,	70 brls.	
Valparaiso,		63
Cape Town,		50
Cardenas,	2	
Genoa,		16
Havana,	1	
Havre, 6	7	7
Hong Kong,	40	
Mayaquez,	3	
Pimental,		15
St. Nazaire,	2	
San Juan,	3 24	

Painters Colours—

Bahia,	20 kgs.	11 cs.	10 cks.	10 brls	
Belize,	162		6		
Bombay,	280				
B. Ayres,	640	6	55	43	50 dms.
Colon,	20 pkgs.				
Gibraltar,	40 kgs.				
Gothenburg,	40 bgs.	6			
Halifax,	47	10 cs.			11 tcs.
Havana,				12	
Larnaca,				2	
Limassol,				2	
Limon,	173			3	
Lisbon,			3	4	
M. Video,	6	32		18	75 dms.
Montreal,			7		
Nassau,			2		
New York,			2		
Para,	41	27 tcs.		11	
San Juan,	345	1		2	
Savanilla,		1 cs.			
Sierra Leone,		8 kgs.		1	
Alexandria,			400		
Amsterdam	50 bgs.				
Baltimore,		55	225		
Bilbao,				3	
Honolulu,			5		
Valparaiso,		4 cs.			

Paraffin Wax—

Barcelona,	28 bgs.	
Valencia,	22	
Salonica,	15 cs.	

Phosphorus—

Yokohama,	15 cs.	£196
Kobe,	15	196
Hong Kong,	3	40
San Juan,	5	72

Potash —

Colon,	1 ck.	£11

Potassium Bichromate —

Alexandretta	13 c.	£26

Potassium Carbonate—

Chicago,	1 t.	6 c.	£27
San Juan,		4	6

Potassium Chlorate—

New York,	9 t.	13 c.	£624
Kobe,	8		460
Hiogo,	50		3,050
Antwerp,	1	3	58
Odessa,	2	2	135
B. Ayres,	4	10	260
Rotterdam,	7	18	456
Havana,	3	10	224
Hong Kong,	1		60
Philadelphia,	1	5	72
Hamburg,	2		112
Copenhagen,	1		56
Boston,	5		286
E. London,		5	17
Oporto,	1		56

Rosin Oil—

Salonica,	6 brls.
Volo,	6

Salt—

Algoa Bay,	85 t		
Axim,	5		
Baltimore,	50		
Black Point,	5		
Calcutta,	834		
Canada,	133	15 c.	
C. C. Castle,	37	10	
Hamburg,	110		
Landana,	12	1	
Manaos,	10		
Newcastle,	790		
N. Orleans,	500		
N. York,	545		
Old Calabar,	20		
Para,	185		
Rangoon,	415		
St. John, N.B.,	300		
Sydney,	100 cs.	175	
Anamaboe,	6	5	
Assinee,	10		
Batanga,	12		
Capetown,	1		
Chicago,	200		
Landana,	16	1	
Newport News,	100		
Ukaka,	20		
Valparaiso,	50		

Salt Cake—

Philadephia,	150 t.	6 c.	£310

Saltpetre—

Bahia,		10 c.	£12
Pimental,		6	7
Para,	2 t	10	59

Sheep Dip—

Punta Arenas,	10 cks.			£60
B. Ayres,	29 t.	14 c	3 q.	850

Soap—

Accra,	26 bxs.			
Antigua,	60			
Barbadoes,	300			
Batanga,	50			
Bombay,	1,400	193 cs.		
Bonny,	200			
Cabenda,	110			
Calcutta,	5	205		
Callao,	20			
Cameroons,	120			
Curacao,	309			
Demerara,	1,431			
Gibraltar,	250			
Guadeloupe,				73 cs
Hong Kong,	200			
Kingston, Jam ,	1,400 bxs.			
Lagos,	44			
Malta,	30 bls.	15		
N York,	1,114 bxs.	62		50 pkg
Nipongive,	50			
Old Calabar,		8		
Penang,		5		
Pimental,		1		
Piræus,	7			20 bdl
Pt. Natal,	214	50		
Rangoon,	49	8		
St. Lucia,	397			
San Francisco,	300			
Shanghai,	1,550	10		
Singapore,	1,338	10		
Ukaka,	50			
Algoa Bay,	420			
Antwerp,	200	1		
Bahia,		1		
Capetown,	121			
Cartagena, N.G ,		1		
E. London,	800			
Genoa,	100			
Half Jack,	100			
Las Palmas	760			
Nassau,		38		
N'Gove,		2		
Pt. Elizabeth,	592			
St. Vincent,	90			
San Juan,	100			
Smyrna,		6		
Valparaiso,	50 kgs.	4		

Soda Alkali—

Lisbon,	65 brls.

Soda Ash—

Algoa Bay,	5 cs.		
Bahia,		5 brls.	
Boston,	241 cks.		300 bgs.
Calcutta,	100 kgs	106	
Candia,	5		
Corfu,		150	
Dunedin,	68	15	
Genoa,	25		200
Hiogo,		20	
Kobe,	5		
Newport News,			1,840
Parnahyba,		20	
Philadelphia,	68 cks.		
Shanghai,		30	
Alexandria,		150	
Antwerp,	100		700
Baltimore,	253	95 tcs.	1,835
Barcelona	66		
B. Ayres,		150	
Chicago,	25		480
Copenhagen,			50
E. London,	25 kgs.		
Gothenburg,	16 cks.		
Havana,	4		
Havre,			200
Melbourne,	162		
M. Video,	5	50	
New York,			4,590
Patras,	9		
Philadelphia,	154		1,450
Rotterdam,			50
Santander,	4		
Smyrna,			10
Syra,		100	

Soda Crystals—

Boston,	140 brls.		140 cks.
Malta	35		
St. Vincent,	6		
Sourabaya,		325 kgs.	
Calcutta,	21	33	
Durban,	20		
Malaga,			15
New York,	112		
St. John's, N.B.,	50		
Valparaiso,	150		

Sodium Arseniate—

Boston,	3 cks.

Sodium Biborate—

Genoa,	10 cs.
Havre,	75

...m Bicarbonate—
...stchurch, 40 kgs
...edin., 390
...oa, 110
...horn, 20
...ta, 10 bgs.
...apore, 17
...ohama, 100
...andria, 20
...terdam, 10 1
...rout, 30
...hay, 310
...yres, 50
...mhagen, 3 cks.
...e, 1,000
...rachee, 1,387
...ritius, 8
...ghai, 50
...al, 10 cs.
...onto, 50
...ste, 25
...ncia, 150
...ice, 25

...m Silicate—
...elona, 110 cks. 35 brls.
...bane, 8
...nna, 7
...ssa, 30
...rto, 10
...us, 10
...lle, 30
..., 10
...bay, 4
...re, 4

...ine—
...anquilla, 50 cs.

...ttis—
... York, 17 c. £8

...ur—
...on, 200 t. 3 c. £1,159
...ier, 4 19 22

...uric Acid—
...Grande, 19 c. 3 q. £12

...rphosphate—
...eaux, 54 t. 2 c. 2 q. £110

...entine—
...atra, 100 dms.
...iam, 10 bxs

...ish—
...yres, 8 cs. 3 cks.
...tantinople, 2
...ue, 1 dm.
...nder, 8 brls.
...le, 2
...huano, 1
...lona, 1

... Lead—
...pico, 1 ck.

Chloride—
...ay, 2 t. 7 c. £38

Oxide—
...abyba, 1 t. £18

...NCHESTER.

...ek ending February 8th.

...ony Sulphate—
...burg, 200 bgs.
...rdam, 511
...—
...rdam, 11 cks.
...il—
...erp, 6 dms. 1 ck.
...alts—
...rdam, 28 cks.

HULL.

...ek ending February 3rd.

...—
...rn, 6 cks.
...s, 23
...e, 10
...nium Sulphate—
...erp, 200 bgs.
..., 180
..., 232
...burg, 751
...illes, 360
...rdam, 1,158
...hing Powder—
...ay, 70 dms.
...s, 32 cks.
...York, 41
...ic Soda—
...ay, 100 dms.
...g, 120
..., 135
...s, 32

Chemicals (*otherwise undescribed*)
Antwerp, 3 cks. 26 cs.
Bordeaux, 20
Bombay, 1,002
Danzig, 20 16 39 pks.
Gothenburg, 48 7
Genoa, 34
Hamburg, 20 59 pkgs.
Harlingen, 20
Kurrachee, 7
Libau, 875 20
Rotterdam, 20 200
Stettin, 5 40
Trieste, 18

Cottonseed Oil—
Antwerp, 500 c.
Bremen, 200
Bergen, 16
Hamburg, 1,017
Marseilles, 1,014
Naples, 50
Rotterdam, 1,817
Trieste, 798

Dyestuffs (*otherwise undescribed*)
Danzig, 30 cks. 1 cs. 12 bls.
Flushing, 2
Hamburg, 2
Libau, 1

Guano—
Dunkirk, 504 bls.

Linseed Oil—
Bordeaux, 35 c.
Bergen, 57
Bombay, 404
Christiania, 34
Christiansund, 42
Drontheim, 94
Hamburg, 109
Stavanger, 74
Trieste, 214
Venice, 13

Naphthol—
Danzig, 13 bls.

Ochre—
Amsterdam, 14 cks.
Rotterdam, 1

Paint—
Bombay, 560 cks.
Genoa, 96
Venice, 2

Painters' Colours—
Antwerp, 14 cks. 11 dms. 26 pks.
Amsterdam, 6
Bordeaux, 1 cs. 44
Bremen, 4
Bergen, 2
Bombay, 49 80 93
Christiania, 1 24
Dunkirk, 1
Fiume, 1
Genoa, 7
Hamburg, 2 31 5
Leghorn, 4
Naples, 1
New York, 1 111
Palermo, 25
Rotterdam, 4
Stettin, 1

Pitch—
Antwerp, 525 t. 16 bls
Kurrachee, 100 cks.

Rosin—
Bombay, 25 cks.
Hango, 1

Salt—
Christiania, 50 bls.

Soap—
Hamburg, 5 cks
Pt. Said, 10 cs.
Rotterdam, 20

Soda Crystals—
Catania, 15 cks.

Tar—
Dunkirk, 25 cks.
Ghent, 200
Hamburg, 10
Rotterdam, 5

Turpentine—
Bombay, 30 dms.

Varnish—
Antwerp, 1 cs.
Bordeaux, 1 1 ck.
Bombay, 75 dms.
Gothenburg, 1
Genoa, 6
Harlingen, 2
Leghorn, 5
Rotterdam, 2

GLASGOW.

Week ending February 8th.

Acid—
Bombay, 174 t. 6 c. £1,225

Ammonium Sulphate—
Demerara, 158 t. 13¼ c. £2,024
Charente, 20 12¼ 280
Hamburg, 30 385

Bleaching Powder—
New York, 24 t. 17¾ c. £200
Bombay, 4 40

Boracic Acid—
Rouen, 13¾ c. £24. 17s.
Japan, 15 27

Borax—
Japan, 17¾ c. £26

Chemicals (*otherwise unaescribed*)
Bombay, 68 t. 5 c. £375

Coal Products—
Naphtha
Rouen, 23 t 5 c. £354
Pitch
New York, 106 t. 3½ c £200
Trouville, 460
Bombay, 21 5 £46. 15s.
Antwerp, 267 11 £335
Barcelona, 605 18¾ 848
Dunkirk, 750
Tar Oil
Hamburg, 50 brls. £29

Coal Products (*otherwise undes.*)—
Rotterdam, 6 dms. £56

Copperas—
Bombay, 60 t. 8 c. £119

Dyestuffs—
Extracts
Barcelona, 3 t. 10½ c. £97
Sumac Extract
Barcelona, 8 t. 12¾ c. £108

Glucose—
New York, 3 t. 10¾ c. £142
Bombay, 5 120

Linseed Oil—
Calcutta, 9 t. 10 c. £180

Manure—
Demerara, 112 t. 18¼ c. £1,418

Painters' Colours—
Calcutta, 3 t. 7½ c. £48
" 61
B. Ayres, 1 11¾ 26
M. Video, 7 8 94

Paraffin Wax—
Barcelona, 22 t. 15¾ c. £549

Potassium Bichromate—
B. Ayres, 1 t. 2¾ c. £47
Gothenburg, 5 15¾ 220
Antwerp, 5 6 189
Bombay, 1 1 45
Japan, 5 8¾ 205

Rosin Oil—
Rotterdam, 16 brls. £34

Soap—
Antwerp, 1 t. £20

Sulphur—
Demerara, 4 t. 1½ c £20. 14s.

Tallow—
Rotterdam, 5 t. 9 c. £200

White Lead—
Calcutta, 2 t. 10 c. £35

TYNE.

Week ending February 3rd.

Alkali—
Antwerp, 9 t. 19 c.
Christiania, 1 4
Libau, 20 3
Leghorn, 9
Rotterdam, 3 1

Ammonium Carbonate—
Barcelona, 1 t 2 c
Odense, 1

Ammonium Chloride—
Barcelona, 6 c.
Odessa, 1 t. 6

Ammonium Sulphate—
Antwerp, 20 t.
Valencia, 50

Antimony—
Hamburg, 3 t.
Rotterdam, 7

Bleaching Powder—
Lisbon, 17 t.
Antwerp, 35 11 c.
Hamburg, 6 5
Genoa, 42 14
Christiania, 15 3
Rotterdam, 12 12
Drontheim, 10 2

Carbolic Acid—
Rotterdam, 5 t. 11 c.

Caustic Soda—
Lisbon, 5 t
Antwerp, 58 2 c.
Hamburg, 9 5
Genoa, 101 3
Barcelona, 37 13
Trieste, 28 4
Christiania, 2 6
Valencia, 24 8
Batoum, 10 2
Constantinople, 1 3
Odessa, 88 4

Copperas—
Odense, 5 t. 4 c.

Litharge—
Hamburg, 1 t. 8 c.
Christiania, 2 13

Magnesia—
Hamburg, 9 c.
Barcelona, 5 t. 15
Naples, 1

Paint—
Antwerp, 1 t. 10 c.
Genoa, 1 19
Bergen, 3

Phosphorus—
Barcelona, 2 t. 14 c.

Potassium Chlorate—
Copenhagen, 2 t. 13 c.

Soda—
Antwerp, 5 t. 7 c
Genoa, 5 3
Trieste, 29 2
Christiania, 5
Odense, 10 2
Svendborg, 6 8
Rotterdam, 32 15
Constantinople, 8 2
Drontheim 26
Esbjerg, 10

Soda Ash—
Trieste, 23 t. 4 c
Copenhagen, 4 4
Odessa, 10 3

Sodium Silicate—
Corfu, 5 t. 3 c.
Piræus, 60 4
Bilbao, 5 17

Sulphur—
Antwerp, 2 t.
Christiania, 60

Superphosphate—
Genoa, 300 t

Tallow—
Hamburg, 2 t 13 c.

Varnish—
Naples, 7 c.

White Lead—
Hamburg, 4 c.
Bergen, 1 t.

GOOLE.

Week ending January 31st.

Alkali—
Dunkirk, 31 cks.

Chemicals (*otherwise undescribed*)
Antwerp, 81 cks.
Boulogne, 2
Ghent, 9 10 pkgs.
Rotterdam, 155

Coal Products (*otherwise undes.*)
Boulogne, 52 cks.
Rotterdam, 44

Manure—
Boulogne, 100 bgs.
Ghent 1,172
Hamburg, 300

Pitch—
Antwerp, 851 t.

GRIMSBY.

Week ending February 3rd.

Chemicals (*otherwise undescribed*)
Antwerp, 1 ck.
Dieppe, 34 cks. 88 pkgs.
Hamburg, 8cs. 21
Rotterdam, 2

Coal Products (*otherwise undes.*)
Dieppe, 208 cks.

PRICES CURRENT. WEDNESDAY, February 14th, 18

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 116, PORTLAND STREET, MANCHESTER.

The values stated are F.O.R. at maker's works, or at usual ports of shipment in U.K. The price in different localities may va

	£	s.	d.
Acids:—			
Acetic, 25 %, and 40 % .. ..per cwt.	7/3 & 11/3		
,, Glacial .. .. ,,		50/-	
Arsenic S.G., 2000° .. .. ,,	0	14	6
Fluoric .. .. per lb.	0	0	3¼
Muriatic (Tower Salts), 30° Tw. .. .. ..per bottle	0	0	10
,, (Cylinder), 30° Tw. .. .. ,,	0	3	0
Nitric 80° Tw. .. .. per lb.	0	0	1¾
Nitrous .. .. ,,	0	0	1¾
Oxalic .. .. nett ,,	0	0	3½
Phosphoric, 1750° .. .. ,,	0	1	2½
Picric .. .. ,,	0	1	0
Sulphuric (fuming 50 %) .. .. per ton	15	10	0
,, (monohydrate) .. .. ,,	5	10	0
,, (Pyrites, 168°) .. .. ,,	3	0	0
,, ,, 150° .. .. ,,	1	5	0
,, (free from arsenic, 145°) .. .. ,,	1	6	0
Sulphurous (solution) S.G. 1025 .. .. ,,	3	0	0
Tannic (pure) .. .. per lb.	0	1	2
Tartaric .. .. ,,	0	0	11
Arsenic, white powdered .. .. nett per ton	14	0	0
Alum (loose lump) .. .. ,,	5	2	6
Alumina Sulphate (pure) .. .. ,,	5	0	0
Aluminoferric .. .. ,,	2	10	0
Aluminium .. .. per lb.	0	3	0
Ammonia, Anhydrous .. .. ,,	0	1	2
,, ·880=28° .. .. per lb.	0	0	3
,, =24° .. .. ,,	0	0	2¼
,, Carbonate .. .. nett ,,	0	0	3¾
,, Muriate .. .. per ton	25	10	0
,, ,, (sal-ammoniac) 1st & 2nd .. per cwt.	39/- & 37/-		
,, Nitrate .. .. per ton	44	0	0
,, Phosphate .. .. per lb.	0	0	10½
,, Sulphate (grey) London .. .. .. per ton	13	17	6
,, ,, (grey) Hull .. .. ,,	13	16	3
Aniline Oil (pure) .. .. per lb.	0	0	5¾
Aniline Salt ,, ... ,,	0	0	5½
Antimony .. .. per ton	45	10	0
,, (tartar emetic) .. .. per lb.	0	1	0
,, (golden sulphide) .. .. ,,	0	0	10
Barium Chloride .. .. per ton	7	10	0
,, Carbonate (native) .. .. ,,	3	10	0
,, Sulphate (native levigated) .. .. .. ,,	45/- to 75/-		
Bleaching Powder, 35 % .. .. nett ,,	7	10	0
,, Liquor, 7 % .. .. ,,	3	10	0
Bisulphide of Carbon .. .. ,,	11	15	0
Chromium Acetate (crystal) .. .. per lb.	0	0	6
Calcium Chloride .. .. per ton	2	5	0
China Clay (at Runcorn) in bulk .. .. .. ,,	17/6 to 35/-		
Coal Tar Products and Dyes:—			
Alizarine (artificial) 20 % .. .. .. net per lb.	0	0	8
Magenta .. .. ,,	0	3	9
Anthracene, 30 % A, f.o.b. London .. per unit per cwt.	0	1	1
Benzol, 90 % nominal .. .. .. per gallon	0	1	3
,, 50/90 ,, ... ,,	0	1	5
Carbolic Acid (crystallised 40°) .. .. .. per lb.	0	0	6
,, (crude 60°) .. .. per gallon	0	1	8
Creosote (ordinary) .. .. ,,	0	0	2½
,, (filtered for Lucigen light) .. .. .. ,,	0	0	3
Crude Naphtha 30 % @ 120° C. .. .. .. ,,	0	0	8
Grease Oils, 22° Tw. .. .. per ton	2	5	0
Pitch, f.o.b. Liverpool or Garston .. .. .. ,,	1	8	6
Solvent Naphtha, 90 % at 160° .. .. .. per gallon	0	1	3
"Lucigen" and "Wells Oils .. .. ,,	0	0	2½
Copper .. .. per ton	41	5	0
,, Sulphate .. .. ,,	15	10	0
,, Oxide (copper scales) .. .. ,,	40	0	0
Glycerine (crude) .. .. ,,	13	0	0
,, (distilled S.G. 1250°) .. .. ,,	43	0	0
Iodine .. .. nett, per oz.	0	0	9
Iron Sulphate (copperas) .. .. per ton	1	10	0
,, Sulphide (antimony slag) .. .. ,,	2	0	0
Lead (sheet) for cash .. .. ,,	10	7	6
,, Litharge Flake (ex ship) .. .. ,,	13	0	0
,, Acetate (white ,,) .. .. ,,	26	0	0
,, ,, brown ,,) .. .. ,,	17	10	0
,, Carbonate (white lead) pure .. .. ,,	20	0	0
,, Nitrate .. .. ,,	20	0	0

	£	s.	
Lime, Acetate (brown) .. .. per ton	6	10	
,, ,, (grey) .. .. ,,	10	5	
Magnesium (ribbon and wire) .. .. per oz.	0	2	
,, Chloride (ex ship) .. .. per ton	2	10	
,, Carbonate .. .. per cwt.	1	17	
,, Hydrate .. .. per ton.	17	0	
,, Sulphate (Epsom Salts) .. .. .. per ton	2	19	
Manganese, Sulphate .. .. ,,	17	15	
,, Borate .. .. per cwt.	2	12	
,, Ore, 70 % .. .. per ton	4	5	
Methylated Spirit, 61° O.P. .. .. per gallon	0	2	
Naphtha (Wood), Solvent .. .. ,,	0	3	
,, ,, Miscible, 60° O.P .. .. .. ,,	0	5	
Oils:—			
Cotton-seed .. .. per ton	22	0	
Linseed .. .. ,,	21	10	
Petroleum, Russian .. .. per gallon	0	0	
,, American .. .. ,,	0	0	
Phosphorus (yellow) .. .. per lb.	0	2	
,, (red) .. .. ,,	0	2	
Potassium (metal) .. .. per oz.	0	3	
,, Bichromate .. ..nett per lb.	0	0	
,, Carbonate, 90% (ex ship) .. .. .. per ton	16	10	
,, Chlorate .. .. per lb.	0	0	
,, Cyanide, 98% .. .. ,,	0	2	
,, Hydrate (Caustic Potash) 80/85 % .. per ton	21	15	
,, ,, (Caustic Potash) 75/80 % .. ,,	20	10	
,, ,, (Caustic Potash) 70/75 % .. ,,	20	0	
,, Nitrate (refined) .. .. per cwt.	1	2	
,, Permanganate .. .. per cwt.	3	5	
,, Prussiate Yellow .. .. per lb.	0	0	1
,, Sulphate, 90 % (ex ship) .. .. .. per ton	9	15	
,, Muriate, 80 % (do.) .. .. .. ,,	8	5	
Silver (metal) .. .. per oz.	0	2	
,, Nitrate .. .. ,,	0	2	1
Sodium (metal) .. .. per lb.	0	3	
,, Carb. (refined Soda-ash) 48 % ..nett per ton	5	5	
,, ,, (Caustic Soda-ash) 48 % .. ,, ,,	4	2	
,, ,, (Carb. Soda-ash) 48% .. .. ,, ,,	4	2	
,, ,, (Carb. Soda-ash) 58 % .. .. ,, ,,	4	2	
,, ,, (Soda Crystals) .. .. .. ,, ,,	3	0	
,, Acetate (ex-ship) .. .. ,,	15	10	
,, Arseniate, 45 % .. .. ,,	11	0	
,, Chlorate .. .. per lb.	0	0	8
,, Borate (Borax) .. .. net, per ton.	28	0	0
,, Bichromate .. .. ,, per lb.	0	0	3
,, Hydrate (77 % Caustic Soda) (f.o.b.) net pr. ton (10 ton lots)	11	0	0
,, ,, (74 % Caustic Soda) ,, ,, ,, (10 ton lots)	10	5	0
,, ,, (70 % Caustic Soda) ,, ,, ,, (10 ton lots)	9	5	0
,, ,, (60 % Caustic Soda) .. ,, ,, (10 ton lots)	8	5	0
,, ,, (60 % Caustic Soda, cream) (f.o.b.) ,, (10 ton lots)	8	0	0
,, Bicarbonate .. .. ,,	6	15	0
,, Hyposulphite .. .. ,,	6	0	0
,, Manganate, 30% .. .. ,,	16	0	0
,, Nitrate (95 %) ex-ship Liverpool .. .. per cwt.	0	9	4
,, Nitrite, 98 % .. .. per ton	29	10	0
,, Phosphate .. .. ,,	15	0	0
,, Silicate (glass) .. .. per ton	5	7	6
,, ,, (liquid, 100° Tw.) .. .. .. ,,	4	5	0
,, Stannate, 40 % .. .. per cwt.	3	0	0
,, Sulphate (Salt-cake) .. .. per ton.	0	17	6
,, ,, (Glauber's Salts) .. .. ,,	1	5	0
,, Sulphide .. .. ,,	8	10	0
,, Sulphite .. .. ,,	5	15	0
Strontium Hydrate, 100% .. .. ,,	8	10	0
Sulphocyanide Ammonium, 95 % .. .. per lb.	0	0	7
,, Barium, 95 % .. .. ,,	0	0	5
,, Potassium .. .. ,,	0	0	7
Sulphur (Flowers) .. .. per ton.	8	0	
,, (Roll Brimstone) .. .. ,,	6	10	0
,, Brimstone: Best Quality .. .. ,,	4	2	6
Superphosphate of Lime (26%) .. .. ,,	2	7	6
Tallow .. .. ,,	28	0	0
Tin (English Ingots) .. .. ,,	73	10	0
Tin Crystals .. .. per lb.	0	0	6
Zinc (Spelter) .. .. per ton	15	17	6
,, Chloride (solution, 96° Tw.) .. .. ,,	5	15	0

THE

CHEMICAL TRADE JOURNAL

AND

OIL, PAINT and COLOUR REVIEW.

Publishing Offices: 32, *BLACKFRIARS STREET, MANCHESTER.*

No. 353. SATURDAY, FEBRUARY 24, 1894. Vol. XIV.

LATE ADVERTISEMENTS.

The List will Close on Monday, the 26th inst.

THE ELECTRO-CHEMICAL COMPANY, Limited.

Capital £200,000, in 40,000 shares of £5. each, as follows:—

26,000 Preference Shares, entitled to a preferential dividend over the Ordinary Shares up to ten per cent per annum, with equal voting powers, and to a rateable participation in the further profits after the Ordinary Shares shall have received ten per cent.

14,000 Ordinary Shares, to be issued as fully paid, in part payment for the British, Foreign and Colonial Patent rights sold to this Company.

40,000

SUBSCRIPTIONS are invited for the above 26,000 TEN per CENT. PREFERENCE SHARES, payable:—

10s. per share on application; £1. 10s. per share on allotment; £1. per share one month after allotment; and the remainder as required.

DIRECTORS

Lewis Evans, Esq. (J. Dickinson and Co., Ltd., Paper Makers), 65, Old Bailey, London, E.C., Chairman Paper Makers' Association.

Leopold Field, Esq., F.R.S.E., F.C.S. (J. C. and J. Field, Ltd., Soap and Candle Makers), Lambeth, London, S.E.

Martin Pirie, Esq. (Alexander Pirie and Sons, Ltd, Paper Makers), Stoneywood Works, Auchmill, Aberdeenshire

*Thomas May Dunster, Esq. (C. Townsend Hook and Co., Ltd., Paper Makers), Snodland Mills, Kent.

*John Henry Walter, Esq. Messrs. J. H. Walter and Co., Paper Makers) Taverham Mills, Norwich.

*Being Shareholders in the Vendor Company, will join the Board after allotment.

BANKERS.

The National Provincial Bank of England, Limited, 112, Bishopsgate-street, London, and its Branches.

BROKERS.

Messrs. Sheppards, Pellys, Scott, and Co., 57, Old Broad-street, London, E.C.

SOLICITORS.

Messrs. Hunter and Downes, 44, Coleman-street, London, E.C.

CONSULTING ELECTRICIAN.

James Swinburne, Esq., Member of Council Inst. Elec. Engineers.

SECRETARY (pro. tem.).

Mr. Thos. Hitchcock.

OFFICES (pro tem.).

57, Old Broad-street London, E.C.

This Company is formed to work on a more extensive scale, in the vicinity of the coal and salt fields of the North of England, the Electrolytic Process for the Decomposition of salt and the production thereby of caustic soda and bleaching powder, carried on for two years past at Snodland Kent, where the commercial value of the process has been thoroughly tested on a practical working scale by the Vendor Company, with the unequivocal success testified to by the accompanying reports of eminent experts.

The Vendor Company's process is that worked under the patents particularised in the contract of sale. To enable intending subscribers to appreciate the merits of the process, its advantages over other processes for the same purpose, and the highly remunerative results likely to accrue from its operations, they are invited to peruse the accompanying reports, made to the Vendor Company by the distinguished scientist, Professor John Hopkinson, F.R.S., late President of the Institution of Electrical Engineers; Mr. James Swinburne, Member of Council of the Institution of Electrical Engineers; and others.

It will be observed that Mr. John Leith, of St. Helens, the well-known Lancashire Alkali Manufacturer and Chemical Engineer, in his report states:—"I estimate that £100,000. will provide all necessary working capital, buildings, land, plant, and machinery, capable of turning out annually 6,400 tons (70 per cent.) Caustic Soda and 13,320 tons (36 per cent.) Bleaching Powder, and that the profit on the manufacture, in combination, of the above 19,720 tons of Caustic Soda and Bleaching powder by this Electrolytic process should be about £110,000. per annum."

The required capital will be provided by the present issue of 10 per cent. Preference Shares, the Vendor Company accepting the purchase money as to seven-tenths in Ordinary Shares, and the balance in Preference Shares or cash, at the option of the Directors.

In addition to erecting works for manufacture, it is proposed to grant licences to Paper and Soap Makers, Oil Refiners Bleachers, and other large users of these chemicals who desire to manufacture Caustic Liquor or Bleach for themselves; and it is anticipated that a considerable additional revenue will accrue from this source, as well as from the sale of, or licence to use, the Foreign Patents. The apparatus for the manufacture of Caustic Liquor and Bleach by the Electrolytic Process being very compact, simple, and inoffensive in working, can easily be erected on the user's premises at a small outlay, and worked by spare engine power, thus saving great expense in solidifying the Soda and absorbing the Chlorine in lime for transport, as well as all charges for packing in drums or casks, and carriage.

The Company acquires of the Vendor Company all the British Patents in respect of the different Inventions used for the process, and such Patent rights as have been obtained or applied for, in respect of some of the Inventions, in France, Austria, Belgium, Italy, Norway, the United States and Canada, and all other rights of the Vendor Company in respect of the Inventions.

The Contract of Sale, dated 16th February, 1894, is made between the Electrolytic Caustic Soda and Chlorine Trust, Limited (in this Prospectus called the Vendor Company), and this Company, and provides for the purchase of all the British Patents and the Foreign and Colonial Patent rights above referred to, for £100,000., payable as to £70,000. in fully-paid Ordinary Shares of this Company, and the remainder in cash or Preference Shares at the option of the Directors, subject to the optional right of C. Townsend Hook and Co., Ltd., to a licence free of royalty to use the inventions at their own works in the business of paper manufacturers [this right was granted by the patentees for services rendered to them, and the Vendor Company purchased with this reservation], and subject also to the optional rights of John Collins, Ltd., Messrs. Henry Bruce and Sons (Kinleith Paper Mills), The Hendon Paper Works Company, Ltd., Messrs. P. Dixon and Son, Messrs John Riley and Sons, The Horton Kirby Paper Works, Edward Lloyd, Ltd. (the Daily Chronicle Paper Mills), The Glory Paper Mills Company, Ltd., The East Lancashire Paper Co., Ltd., The Ellangowan Paper Co., and Dixon, Horsburgh, and Co., Ltd., to manufacture Caustic Soda and Bleach, at a royalty of 15s. per ton, for their own use, at their own works, to the extent, in the aggregate of 561 tons per week, which, at 50 working weeks in the year, would amount to 28,050 tons per annum.*

The Vendor Company is the promoter of this Company, and has fixed the amount of the purchase money. It pays all the costs and charges of the formation of this Company up to and including allotment. The Contract of Sale is the only contract to which this Company is a party, but as the above mentioned conditional agreements for licences and other business contracts of the Vendor Company may technically be deemed contracts within the meaning of Section 38 of the Companies Act, 1867, applicants for Shares shall be deemed to waive the insertion of the dates and names of the parties to any other contract.

A search was made in the Patent Office on behalf of the Vendor Company by Messrs. Newton and Son, the well-known Patent Agents, for any British Patents likely to constitute anticipations of the inventions relating to the process, and they submitted the results of the search to Mr. J. Fletcher Moulton, Q.C., F.R.S., whose favourable opinions may be seen by any intending subscriber.

Samples of Caustic Soda and Bleaching Powder manufactured by the Vendor Company at Snodland, also the originals of the above-mentioned reports, all of which are addressed to the Vendor Company, can be seen at the offices of the Company. The opinions of Mr. Moulton, the Contract of Sale, and the Memorandum and Articles of Association can be seen at the offices of the Solicitors to the Company.

Applications for Shares should be made on the form accompanying the prospectus, accompanied by the payment of 10s. per share, and should be sent to the Bankers, or to the Secretary at the offices of the Company. Prospectuses and Forms of Application can be obtained of the Bankers, Brokers and the Secretary.

* Should all these optional rights be fully exercised, and the maximum number of tons licensed be manufactured, the nett additional income receivable by this Company from these royalties alone would be £21,037 per annum.

16th February, 1894

TO BE SOLD 100 tons of Nitre and 100 tons of Salt Cake. Also, TO BE SOLD or LET Large Works and complete Machinery for Chipping, Rasping, Grinding every description of Dyewoods, Turmeric, Valonia, myrabolams, etc., together with a Large Building, recently erected, supplied with steam, intended for the manufacture of Dyewood and Sumac Extracts. Also a small Chemical Works, which has been continuously working for upwards of 70 years in the manufacture of Nitric, Muriatic and other Acids, Nitrate of Iron, and all the solutions used by dyers.—Apply to Edward Eaton, Fountain-street East, Macclesfield. February 22, 1894.

Advertisements.

Prepaid Advertisements of Situations Vacant, Premises on Sale or To be Let, Miscellaneous Wants, and Specific Articles for Sale by Private Contract are inserted in the *Chemical Trade Journal* at the following rates:—

30 Words and under..... 2s. 0d. per insertion

Each additional 10 words ..... 0s. 6d.

CURRENT TOPICS.

THE INSTITUTE OF CHEMISTRY.

ON Thursday next the Annual General Meeting of the Institute of Chemistry will be held at the new buildings in Bloomsbury-square, London. The proceedings of these meetings have often in the past been fraught with considerable interest, and the discussion has been brisk and animated. No doubt there will again be some discussion of an interesting nature, since the Honorary Secretary of the Institute of Chemistry Reform Association has given notice that he will move that the words "in any one or more of the universities or chartered or incorporated colleges or schools approved by the Council" be omitted from the regulations for admission to membership.

Such a proposal will no doubt meet with a good deal of support, as it is against the interests of the Institute to stipulate certain institutions which must be attended, and to refuse membership to those who cannot show that they have attended any such individual College or University. It is desirable that all future chemists of any standing should be members of the Institute, and so increase its revenue in proportion to the additional calls made upon the same. To retain a clause which will effectually bar many from the privileges of membership, but who nevertheless will enter the profession, is therefore as vexatious as it is useless. The abolition of the clause will moreover in no way deteriorate the significance of Fellowship, as the student will have to give satisfactory evidence of a good general education all the same, which coupled with the examinations imposed by the Institute, should be sufficient guarantee that the gaining of the Associateship is a warranty of sound knowledge of chemistry, and an education compatible with the requirements of the profession.

If a man possesses abundant knowledge to fit him for the Associateship, it is hard that he should be prevented from obtaining public recognition of the same as a member of the Institute, because he has not gained his knowledge through certain fixed and arbitrary channels; whereas such recognition is accorded to another, who from first to last was intellectually his inferior, and who could boast only just sufficient erudition to qualify for membership, but had gathered the same through one of the mediums appointed by the Council.

There is another matter, however, upon which members have cause to congratulate themselves. Setting aside the welcome departures which have been made during the past year in the erection of suitable offices and laboratories, the Institute has for some years, borne a reputation like unto that enjoyed by a certain village in Palestine, out of which it was doubted if any good could come. But during the past few months a direct service has been done by the Institute to the analytical profession, in that it sent a deputation of three influential analysts to the Board of Agriculture, to urge the importance of appointing only fully qualified chemists to administer the new Fertilizers and Feeding Stuffs Act of 1893. This action was strictly in accordance with the aims and duties of the Institute, and is worthy of fitting acknowledgment, since it can hardly fail to materially benefit the present generation of analytical chemists. And, again, who knows but what it may have influenced the delay which has occurred in the appointment of the Chief Analyst under the Act?

THE VALUE OF WARRANTIES IN FOOD ADULTERATION CASES.

With increased activity in the prevention of food adulteration, retailers are giving more attention to the matter of warranties, so that in the event of being summoned for supplying milk or butter containing abnormal quantities of water, they may protect themselves under the cover of the warranty which they have obtained from the wholesale dealer. Undoubtedly it is desirable that where the sophistication originates with the producer or wholesale vendor, protection in the shape of a warranty should be afforded to those who retail the adulterated article, under the impression that it is genuine. There is one interesting point, however, in connection with the validity of warranties which commands careful attention, and that is the fact that the warranty is practically useless as a against prosecution for the sale of adulterated modities, unless it can be absolutely proved such commodities have been sold in precisely the sam dition as when first delivered to the retailer. An in ing case illustrative of this point appears in our colum week, from which it transpires, that although no oppo was afforded for the addition of water to the milk in qu so far as the retail seller knew, it was not proved that n had been added to the milk in the way of adulteration. this fact an appeal was made against the magistrate's de that the second-hand seller was not liable under the sur which was brought against him, because the milk ha bought as genuine under a written warranty, *pres* without any change being made, on the ground that the no *proof* that the milk had not been tampered with way. In accordance with this the appeal was allowed.

NIL DESPERANDUM.

Early this year we expressed an opinion that more be heard during the ensuing twelve months about the fl point of mineral oils, and happily there seems to be satisfactory evidence that such will prove to be the The Home Secretary has again been approached in ment upon the advisability of inquiring, at an early dat the subject of a proper legal flash-point.

We know that, so far, applications urging the neces reconsidering whether 73°F. is a really safe flashing-po lamp oils, have been answered by the Government effect that "there are not sufficient grounds either of or convenience for an alteration of the existing flashing for mineral oils."

It is certainly a point gained to have elucidated th that although the Home Secretary considers the point query cannot be dealt with apart from the whole tion of amended petroleum legislation, still in his opini all events, the subject is one which might well be invest by a Parliamentary Committee during the coming Se with a view to further legislation. Undoubtedly, the in view is at present a long way from being attained, the other hand it is a distinct advance to have succee arresting the attention of the Government sufficien draw the admission that there is just cause for inquiry.

TIPS FOR TRADERS.

COAL, and the cost of unloading the same at Leghorn, is a q which has been occupying the attention of the Leghorn Cha Commerce. Their object was to abolish the practice of makin charge for hire of shovels and shoots, over and above the usual of one lira per ton. They have obtained a decision in support objection. The charge of one lira is inclusive. Also owing to of tenpence or a franc in charter parties, instead of one lira, as per ton, it may be pointed out that at the present rates of Exch franc equals 1·14 lira at Leghorn, and tenpence about 1·20 lira.

JAPANESE COAL is finding a market at Bombay as a railw being better than Indian and cheaper than English coal. The amount to 1¼ million tons per annum.

TARIFF CHANGES.

ANHYDROUS AMMONIA and SULPHUROUS ACID compre wrought-iron receptacles when imported into Switzerland are su a duty of 2 francs per quintal (= 220·4 lbs. avoir.)

CHLORINE and OXYGEN gases compressed in like recepta subject to a similar duty.

DELTA METAL is held by the French Customs authorities as copper alloyed with zinc, raw or manufactured, as the case m

NITRONAPHTHALINE is held by the same authorities dutiabl francs per 100 kilogs.

CARBOLIC SOAP is subject to a duty of 80 centimes, or 60 c per kilogramme net.

SOAPS with a pine extract basis are prohibited for importation.

MARINE OIL composed of rape, cotton seed, and low grade oli with probably some other expressed oil, when imported into the States of America is dutiable as rape seed oil at 10 cents per gal

CRUDE EOSINE is under the new U.S.A. tariff subject to a 35 per cent. *ad val.*

BUTYRIC ETHER is assessed at a duty of 2·50 dollars per pou fruit essence.

Reports of Companies.

OOKE, SIMPSON AND SPILLER, LIMITED.

ıry general annual meeting of this company was held last
ıe Chairman (Lieut.-Colonel A. Brooke), after detailing the
h the coal strike and general bad trade had had upon their
tated that notwithstanding all the factors which had com-
etard progress, the output for the past year showed an in-
he monetary value of dyes had however not advanced, but
(n some colours a shrinkage of as much as from 8 to 20 per
taken place during 1893, as compared with the previous
also stated that it was proposed at a future meeting to
: resolution to cut down the number of directors to seven,
passed at the general meeting last year, in order to allow
on, who had offered to work with the directors, to join the
he chairman then moved the adoption of the report, which
s seconded by Mr. R. Simpson. The adoption of the report
ed by Mr. E. Hickson, one of the directors, urging that the con-
ot being conducted on sufficiently advanced and scientific prin-
r. A. J. Green said he was of the opinion that they were suffering
glect of science in the past. At the time the industry commenced
e very large, and no one troubled about making further
ıvestigation in this country, while in Germany a progressive
adopted. He advocated the employment of a larger number
s.
swell said he agreed with Mr. Green that in the earlier days
lustry scientific development was neglected; but when he
ok part in the direction of affairs, although the business was
pectable dividends, his policy had been to extend the works,
ıre a solid foundation for the business. His first step was to
fundamentals of the business, and to urge on the board that
ld begin the manufacture of what were really their raw
He was grieved to feel that Mr. Hickson, who was the
he company's products in Yorkshire, had taken the attitude
wards his co-directors, and still more so that Mr. Green had
at their progress had been unsatisfactory. Mr. Green, after
l at the thing from only one side. Every chemist desired
ut he (Mr. Friswell) had, besides his position as chemical
ınother interest to consider, and he was in a position to know
ch Mr. Green could not know. His policy had been always
ance, and he had been most loyally seconded by his board,
y desire was to go as fast as they could. He admitted that
rs had checked him, but they had perfectly good reasons
o, and he was bound to say that they had gone as fast as
: permitted them. He stood on the work done, and appealed
there present to judge whether every word he had said was
vas not his fault that the works were small; but he would
ecently, Dr. Armstrong, who was intimately acquainted with
atest continental works, had stated that he had never seen
etter than their new extensions.
r Meldola said he was convinced that the board had done
in the circumstances, considering the unprecedented combina-
erse conditions during the past year. He happened to know
of the best German firms had had a very bad year. What
expected in this country, when prices had been lowered so
a great coal strike had occurred, which must be taken into
a very serious item. As to the future policy of the company,
olders might feel that in Mr. Friswell, whom he had known
years, they had a servant who was working to the utmost of
for their advantage.
nson said he was the person mentioned by the Chairman as
co-director. If it was desired by the shareholders he would
hem for one year on the board, and he asked them to suspend
nent until that term expired.
tion was carried unanimously.

THE SALT UNION, LIMITED.

ıual report of the directors of this Company for the year
cember 31, 1893, states that the gross tonnage of salt
by the union in 1893 was 1,240,000 tons. The strike of the
s, lasting 16 weeks, considerably curtailed the demand for
ınufacturing purposes, and accentuated the trade depression
Jnited Kingdom. The commercial depression in other
ıas also adversely affected the shipping trade of this country,
by diminished the quantity of salt required for shipment.
: year there has been further concentration in manufacture at
of the Company, and the attention of the directors is given
y processes or methods which tend to still further cheapen
. The amount owing by the union at December 31 last was
, and to the union £170,006.; the cash at bankers on current
it accounts and in hand was £92,829, and bills receivable
460. Profit and Loss Account.—The amount standing to the credit of the account for the sale of salt and brine was £256,292. To this has to be added the sum of £78,416, representing the profits earned from carriage, and other sources, making the total amount £334,709. After deducting the cost of maintenance of plant, distributors' commission, agency, and other charges set forth in the profit and loss account, the profits from all sources amount to £176,860., and adding the amount brought forward, the total is £179,677. After paying debenture stock interest and the interim dividend to June 30 last, at the rate of 7 per cent. per annum on the preference shares, £99,676. is left, and the directors recommend dividends at the rate of 7 per cent. per annum on the preference shares for the half-year. and at the rate of 3 per cent. for the year on the ordinary shares, carrying forward £4,677.

THE ROSARIO NITRATE COMPANY, LIMITED.

The report of the directors states that the profit and loss account shows a gross profit on trading account of £141,835., of which interest on debentures to September 30th, 1893, general charges, and loss in exchange have absorbed £46,560., leaving, together with the balance brought from the last account, the sum of £130,271. The amount paid in respect or amortisation of debentures on April 1st, 1893, together with the premium thereon, amounted to £68,530., thus leaving (together with an income-tax return for over-payments in 1891-92 of £218.) a balance of £61,959. Out of this balance the Company paid on November 8th, 1893, an interim dividend of 2½ per cent., absorbing £15,000, and has to retain one-half of the sinking fund falling due on April 1st, 1894, amounting to £20,212. There remains, therefore, an available balance of £26,746., out of which the directors recommend the declaration of a further dividend of 3½ per cent., making 6 per cent. for the year. As this will absorb £21,000., there will remain a balance of £5,746. to be carried forward. The report states: "The Company's *officinas* have again been worked on a scale considerably lower than their productive capacity, with a proportionate saving in the consumption of raw material. The directors feel sure that the result attained under these circumstances will be considered satisfactory."

DIVIDENDS.

MESSRS. BRUNNER, MOND AND CO.

Have declared a dividend at the rate of 30 per cent. per annum, leaving a sum of £82,000. to be carried over.

THE SANITAS COMPANY, LIMITED,

Recommend a final dividend of 1s. per share and a bonus of 1s., making a total distribution for the year 1893 of 15 per cent., after adding £1,534. to reserve. and placing £750. to depreciation of patents and goodwill account, leaving £854. to be carried forward.

THE INTERNATIONAL WATER AND SEWAGE PURIFICATION COMPANY, LIMITED,

Have declared an interim dividend on the preference shares of the company for the half-year ended December 31st, 1893, at the rate of 7 per cent. per annum, payable on the 24th instant.

THE DEE OIL COMPANY, LIMITED.

It has been known to the majority of those who took any interest in the proceedings of this company that the creditors who were debenture holders for £50,000 have been in possession of the company's entire property and business since February, 1891, by virtue of an order of the Court of Chancery, and have carried on the business since that date, under the management of a receiver, duly appointed, as part of the same order. As a result of the debenture holders taking possession, the Dee Oil Company, Limited, had to go into liquidation (*C.T.J.* 305, p 193), but that step has never been allowed to interfere with the possession by the debenture holders, though it has somewhat interfered with the business operations on their behalf by reason of reports which have appeared from time to time of the liquidation proceedings. Recently a new scheme of arrangement has been determined upon, under which the liquidator of the shareholders' company is, for a consideration of £1,300, paid out of the assets taken under the Court's order, to release to the debenture holders all equity or other claim by him to the estate they now hold, and so leave these last absolute owners of the whole property at the price of their capital debt of £50,000, plus all over-due interest. This scheme had to receive the formal sanction of the court. To get this sanction application made to Mr. Justice Wright on Wednesday last week, and all parties affected by it having been present through their counsel, and given their assent when the application was made, the court gave its approval. The new company will therefore be duly incorporated under the old title of the Dee Oil Company Limited, and will pursue its course in the future under much the same management as it has had in the past three years, but with the advantage of having it generally known that the company will now be entirely free both from Chancery proceedings and the liquidating shareholders' committee.

Official Memoranda.

(From the Board of Trade Journal.)

ROUMANIAN IMPORT DUTIES.

IN accordance with the treaty between Roumania and Germany the following are some of the alterations which have been made in the Customs duties, and which came into force at the beginning of this year. A leu equals a fraction over 9½d :—

ARTICLES.	RATES RECENTLY LEVIED.		RATES NOW LEVIABLE.	
		Lei. b.		Lei. b.
Manufactures of india-rubber not in combination with other materials	100 kilog.	70 0	100 kilog.	40 0
Manufactures of india-rubber combined with other materials	,, ,,	100 0	,, ,,	80 0
Belting, flat or round, for machinery	,, ,,	70 0	,, ,,	35 0
Coarse Iron Castings, whether tarred, painted, filed, or primed	,, ,,	5 0	,, ,,	3 0
Cement (all kinds)	,, ,,	0 75	,, ,,	1 5

CUSTOMS LAW OF THE ARGENTINE REPUBLIC.

The new law of this Republic for 1894 makes certain statements of duties leviable on goods imported. All goods will have to pay a duty of 25 per cent. if to be consumed in the Republic. There are, however, certain exceptions, of which the following is an abstract :—

Mica will have to pay a duty of 50 per cent.
Soda Ash intended for use in industries,
Sodium Nitrate,
Sulphur, unpurified,
Sulphate of Lime, — 5 per cent.

The undermentioned have to pay specific duties as follows :—

ARTICLES.	RATE OF DUTY.	
		Dollars.
Vegetable Oils	Kilog.	0 12
Matches, wax	,,	0 80
,, wooden	,,	0 40
Candles (paraffin or stearine)	,,	0 15
Fecula	,,	0 00¾
Glycerine (less than 30% for industrial purposes)	,,	0 02
Petroleum	Litre	0 02
Salt	Hectolitre	0 02
,, (fine)	100 kilog.	2 00
Stearine	Kilog.	0 14

The following are admitted duty free :—
Naphtha, Petroleum, impure,
Mercury,
Pulp for paper-making,
Fuses for mines,
Dynamite fulminate.

THE MANUFACTURE OF SLAG BRICKS.

The manufacture of bricks from blast furnace slag has attained considerable dimensions in Germany, the Luhrmann furnaces near Osnabruck alone having turned out 5,100,000 bricks. The manufacture has also been taken up by other ironworks. The granulation of the slag, the first essential portion of the process, which is substantially the same everywhere, is effected by running the slag along a channel together with a stream of water into a reservoir, in which it is collected. The lime to be mixed with it, in the proportion of one part to six of granulated slag, is slaked with sufficient water to yield a moist sludge, and the two ingredients are thoroughly incorporated in a mill, which process is conducted in the following way :—The mixed slag and lime are conveyed by a spout, to which a shaking movement is communicated to a pair of rolls, which stop the access of unduly large fragments of slag or foreign bodies to the mixer proper, and mingle the slag and lime still more thoroughly while reducing them somewhat in size. The final mixing is effected by a set of three drums with radial projections fitting into each other with only a slight amount of clearance so that the ingredients are brought into the most intimate contact. A machine absorbing 2 to 3 h.p. will serve to prepare the material for 9,000 to 10,000 bricks per shift of 10 hours. The mixture is moulded into bricks by a m which is provided with a hopper kept filled by the labourer in and an arrangement whereby the quantity necessary to form on is let down into the mould and then the aperture closed, wh movable sides of the mould are brought into position by ecc and by this means pressure is exerted upon the mass to shape an solidate it. The finished brick is pushed out of the machine a operations of filling the mould and applying pressure are repeate machine absorbing 7 to 8 h.p. will turn out at least 9,000 to bricks per shift, its capacity being limited chiefly by the time co in removing the finished bricks. The bricks thus prepared are at first, and have to be handled carefully, and must be stacke protected from rain for the first day, a precaution that is not aft necessary. They become sufficiently strong for use for buildin poses after the lapse of six to twelve months.

THE RELATIVE CONSUMPTION OF AMERICAN A RUSSIAN PETROLEUM.

The following figures show the comparative consumption of can and Russian petroleum in the undermentioned countries :—

	American Petroleum.	Ru Petr
	Per Cent.	Per
Austria	—	1
England	69	
Germany, Belgium, and the Netherlands	90	
France	77	
Spain and Portugal	100	
Italy	62	
Turkey	1	
India	38	
China	71	
Japan	75	

The average consumption in the world is, therefore, accord these data, 58·30 per cent. for American petroleum and 41·70 pe for Russian petroleum.

The price of refined petroleum has in a few years undergone siderable diminution, as the following figures published by the ington Bureau of Statistics will show :—

The average price per gallon of refined petroleum at 70 degree (trial test) at New York was 8·14 cents in 1883, 8 28 cents in 7·86 cents in 1885, 7·07 cents in 1886, 6·75 cents in 1887, 7·5c in 1888, 7·19 cents in 1889, 7·33 cents in 1890, 6·85 cents in 189 cents in 1892, and 5·25 cents in 1893.

BOUNTIES ON SHALE LIGHTING OILS IN FRAN

Lord Dufferin, Her Majesty's Ambassador at Paris, in a despa the Foreign Office, dated the 8th January, encloses copy of a law granting bounties on the manufacture of shale oils for li purposes.

This law provides that dating from the 12th July, 1893, and period of six years, there will be allowed to the extractors of bitum schist, intended for the manufacture of shale oils for lighting, bo to an amount not exceeding 300,000 francs annually, and fixed a ing to the proportional quantities of raw oils manufactured, with any case the bounty exceeding three francs per hectolitre of raw

Further regulations will determine the conditions for the appli of the present law.

Any person proved guilty of fraud or attempted fraud in conn with the obtaining of a bounty will be debarred from benefiting bounty and will be liable to the penalties provided in Art. 423 penal code.

THE SWEDISH IRON INDUSTRY.

At the annual meeting of the Swedish Iron Masters' Assoc which took place last month at Orebro, the present depressed con of the Swedish iron industry, and the outlook for the present yea discussed.

The following figures adduced at the meeting serve to show to extent the low prices are resulting in diminished output. At th of the December quarter of the year 1892, 89 furnaces, 335 forg Bessemer converters, 24 Martin converters were in operation. F corresponding period of the year 1893, the numbers were :—11 naces, 370 forges, 21 Bessemer converters, and 21 Martin convert

The large increase in the production of iron ore in Sweden, quent upon the opening up of the Gellivara mining district has

d with a heavy fall in prices. Before the opening of the s, ore of similar quality with that produced from them sold for bout 50 per cent. higher than those now obtainable.

e department of iron working, an important discovery has lately ade by the well-known Swedish Engineeer, Herr de Laval, in- of the cream separator, this gentleman having patented a for extracting iron from its ore by means of electricity. The periment on a large scale is to be made at Trollhattan, where he principal water falls has been leased for the generation of tricity required.

discovery in consequence of the high reputation of Mr. de Laval much discussed here, and some speak of it as likely to effect a ion in the Swedish iron industry.

THE GALICIAN PETROLEUM INDUSTRY.

ough the petroleum wells of the United States and of do not seem by any means to be exhausted, it is of hest importance to discover what other countries are pre- n their turn to supply mineral oil. As can easily be under- this liquid combustible is constantly being adapted to and more numerous, and to more and more varied em- nts. It is no longer restricted to lighting purposes. Special engines consume enormous quantities of it day after day. ld, therefore, be as well to devote some attention to the um basin of Austria, the more so as it has hitherto almost escaped notice.

ll the provinces of Austria, Galicia is the one which is the ovided with subterranean wealth. The mineral riches of rt of the Empire are very varied and exceedingly abundant; nclude iron, zinc, lead, and even auriferous sand. Salt- the product of which is enormous, form an immense semi- through the whole length of the country; they begin racow, with the celebrated mines of Wieliczka, and they to the Bukovine River.

as is often the case, it is precisely in the neighbourhood e salt beds that petroleum is found. If we glance at the Austria we see that the Carpathians, between Upper Silesia allachia, describe a vast curve, the concavity of which is s the north-east; this chain of mountains forms the fron- Galicia, and it is upon its concave side that the petroleum are found, in a zone parallel to that of the salt works. troleum basin is formed of a multitude of little beds, most n about 3 km. in breadth and 300 in length.

existence of petroleum in this country has long been re- d, but no means have been taken to determine its exact In old days the Galician peasants were accustomed act from the local soil a bituminous substance, which they oil their carts. There is, indeed, a tradition that it was ow that the first petroleum lamp was ever used. According Steinman, it was about 1830 that the Galicians began to substance called *ropa*, which is simply the raw oil, out of they manufactured asphalt and a lamp oil. A chemist at rg was the first to carry out this trade on any scale. This time when the "oil fever" was breaking out in America; nour of fortunes so rapidly made in the United States ts way to Galicia, and it was felt then that such a source of ought no longer to be neglected.

chemist in question was not long in finding imitators. ers began to arrive, who examined the ground, either in wn personal interest or in that of the local land owners. way a considerable centre was created at Boryslav, in the basin of the Dniester; soundings were next made to the f the Tatra, in the valley of Dunajec, and, after awhile, h idea was formed of the arrangement of the petroleum the basin of Western Galicia. In the year 1886 the pro- xceeded 30,000 tons.

industry commenced in a very primitive way. The ex- dug but a short distance into the ground. It was usual t with the oil in the eocene and miocene formations of tiary deposits. Besides this, the treatment of the product xtracted was so rudimentary that it led to wholesale waste erial. This will be more clearly understood by a short nt of the method in which the work was at that time on.

ell was dug of from 1·50 to 2 square metres; as soon the digging had descended vertically for a few metres, began to ooze out; when the depth was sufficient, the well ed with wood and another was dug, each being immediately and the labourer proceeding with his pickaxe. On this of course, it was necessary by a hand-worked ventilator, the necessary air down for the workmen to breathe, in drive away the hydrocarburetted gases which accumulated bottom of the well.

With this method it was possible to go down to a depth of 100 m.; if the oil came in sufficient quantity it was raised by means of a bucket or of a forcing-pump. It was often necessary to continue the work until the petroliferous sandstone was reached. But, as it was all done by manual labour, it sometimes took five years to bore a well.

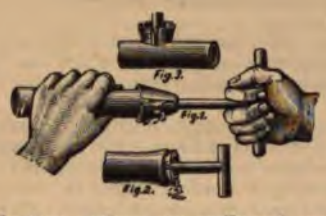
At the present time another system is commonly made use of, varying somewhat according to whether pumping wells are used, where the oil does not gush out, but has to be lifted to the surface of the ground, or whether, on the contrary, they are springs. In all cases, what explorers look out for is the yellowish petroliferous sandstone, porous and full of raw oil, a sandstone which has a very peculiar appearance, by which the miners instantly recognise it.

Space will not permit of an enumeration of all the works existing in Galicia. Although the Austrian wells are far from producing the enormous quantities realised by those in the Caucasus, the product is considerable, and the labour expended has been rewarded with success. In the district of Lodzna, for instance which is about 8 km. in length, oil has been extracted on a grand scale, thanks to the improvements introduced into the methods of working. We may mention among the places where are found pumping wells, Kryg, Libusza, Polanka, Sloboda, and Ringurska. There are springs at Polanka, as well as at Wielzrno. In the former of these centres an English company of considerable importance is established; in the latter a special system of canalisation brings the petroleum, in the American way, to the station at Krosno; another exists at Sloboda; the works at Zagorzany, at Lipinki, and at Woytowa, are also worthy of mention. There are excellent refineries in Galicia, at Libusza, at Oderberg, and at Zagorzany.

As regards an analysis of the Galician petroleums, it must suffice to say that 1,000 kg. of the raw oil contain 560 of petroleum, 120 of benzine, 15 of paraffin. The Austrian Government has, moreover, encouraged by all the means in its power the petroleum industry. When it is considered that a few years ago all the refineries in Galicia only produced 4,000,000 litres of oil, and that in 1889 they produced more than 28,000,000, some idea may be formed of the degree in which this industry is expanding.

A NEW PLUMBING PIPE SCRAPER.

IN chemical works were a great deal of plumbing work is done, and where it often happens that while the work has to be performed in an emergency with expedition it has to be done effectively, it requires a certain amount of skill to prepare the ends of a pipe for soldering quickly and neatly. Again, where accurate and strong work is required, plumbing often takes considerable time owing to the difficulties of working in awkward places. The combined scraper and tamp pin which we illustrate is a very neat and handy little appliance. Figure 2 shows its application to expanding and paring the inside of a pipe, and figure 1 the preparation of the outside of the extremity of another pipe to be inserted in the end of figure 2. Both these operations are performed with the same tool, as the handle unscrews, and can thus be screwed into the apex of the cone either from the outside or the inside.



By this means the two surfaces are easily and speedily cleaned and shaped to the same angle, and therefore fit each other accurately, forming a very strong joint with a minimum amount of solder. Figure 3 indicates how this tool can be applied in paring the hole for the insertion of a branch pipe. A small hole is made with an auger, or some such suitable tool, the hole then being enlarged and bevelled to the same angle as the end of the pipe which is to be inserted by the patent scraper (the tool is protected by letters patent), which is made in five sizes, from half-an-inch up to an inch-and-a-quarter. Owing to their simplicity they can be made cheaply, and so are within the reach of all. This is testified by the fact that already seven thousand have been supplied by the maker, Erdmann Kircheis, Aue i/Sachsen. One of the greatest advantages of this tool lies in the fact that in preparing joints no chips or parings can fall into the pipes, as for internal work, they are all caught in the bell-shaped cutter, a point which is often of considerable importance.

THE FERTILISERS AND FEEDING STUFFS ACT, 1893.

AS this Act is of great importance to every branch of the manure trade as well as some sections of the chemical trades, we have reproduced the text of the Act, so that a copy may always be to hand for reference.

AN ACT

To amend the law with respect to the sale of agricultural fertilisers and feeding stuffs.

Be it enacted by the Queen's Most Excellent Majesty, by and with the advice and consent of the Lords spiritual and temporal, and Commons, in this present Parliament assembled, and by the authority of the same, as follows :

I.—(1.) Every person who sells for use as a fertiliser of the soil any article manufactured in the United Kingdom or imported from abroad shall give to the purchaser an invoice stating the name of the article, and whether it is an artificially compounded article or not, and what is at least the percentage of the nitrogen, soluble and insoluble phosphates, and potash, if any, contained in the article, and this invoice shall have effect as a warranty by the seller of the statements contained therein.

(2.) For the purposes of this section an article shall be deemed to be manufactured if it has been subjected to any artificial process.

(3.) This section shall not apply to a sale where the whole amount sold at the same time weighs less than half-a-hundred weight.

II.—(1.) Every person who sells for use as food for cattle any article which has been artificially prepared shall give to the purchaser an invoice stating the name of the article and whether it has been prepared from one substance or seed, or from more than one substance or seed, and this invoice shall have effect as a warranty by the seller of the statements contained therein.

(2.) Where any article sold for use as food for cattle is sold under a name or description implying that it is prepared from any particular substance, or from any two or more particular substances, or is the product of any particular seed, or of any two or more particular seeds, and without any indication that it is mixed or compounded with any other substance or seed, there shall be implied a warranty by the seller that it is pure, that is to say, is prepared from that substance or those substances only, or is a product of that seed or those seeds only.

(3.) On the sale of any article for use as food for cattle there shall be implied a warranty by the seller that the article is suitable for feeding purposes.

(4.) Any statement by the seller of the percentages of nutritive and other ingredients contained in any article sold for use as food for cattle, made after the commencement of this Act in an invoice of such article or in any circular or advertisement descriptive of such article, shall have effect as a warranty by the seller.

III.—(1.) If any person who sells any article for use as a fertiliser of the soil or as food for cattle commits any of the following offences, namely :—

(*a*) Fails without reasonable excuse to give, on or before or as soon as possible after the delivery of the article, the invoice required by this Act ; or

(*b*) Causes or permits any invoice or description of the article sold by him to be false in any material particular to the prejudice of the purchaser ; or

(*c*) Sells for use as food for cattle any article which contains any ingredient deleterious to cattle, or to which has been added any ingredient worthless for feeding purposes and not disclosed at the time of sale.

He shall, without prejudice to any civil liability, be liable, on summary conviction, for a first offence to a fine not exceeding twenty pounds and for any subsequent offence to a fine not exceeding fifty pounds.

(2.) In any proceeding for an offence under this section it shall be no defence to allege that the buyer, having bought only for analysis, was not prejudiced by the sale.

(3.) A person alleged to have committed an offence under this section in respect of an article sold by him shall be entitled to the same rights and remedies, civil or criminal, against the person from whom he bought the article as are available to the person who bought the article from him, and any damages recovered by him may, if the circumstances justify it, include the amount of any fine and costs paid by him on conviction under this section, and the costs of and incidental to his defence on such conviction.

IV.—(1.) The Board of Agriculture shall appoint a chief agricultural analyst (hereafter referred to as the chief analyst), who shall have such remuneration out of moneys provided by Parliament as the Treasury may assign. The chief analyst shall not, while holding his office, engage in private practice.

(2.) Every County Council shall, and the council of any county borough may, appoint or concur with another council or other councils in appointing for the purposes of this Act a district agricultural analyst (hereafter referred to as a district analyst) for its county or borough, or a district comprising the counties or boroughs of the councils so concurring. The remuneration of any such district analyst shall be provided by the council, or in the case of a joint appointment by the respective councils in such proportions as they may agree, and shall be paid, in the case of a county, as general expenses ; and, in the case of a county borough, out of the borough fund or borough rate. The appointment shall be subject to the approval of the Board of Agriculture. Provided that no person shall while holding the office of district analyst engage in any trade, manufacture, or business connected with the sale or importation of articles used for fertilising the soil, or as food for cattle.

V.—(1.) Every buyer of any article used for fertilising the soil or as food for cattle shall, on payment to a district analyst of a fee sanctioned by the body who appointed the analyst, be entitled, within ten days after delivery of the article to the buyer, or receipt of the invoice by the buyer, whichever is later, to have the article analysed by the analyst, and to receive from him a certificate of the result of his analysis.

(2.) Where a buyer of an article desires to have the article analysed, in pursuance of this section, he shall, in accordance with regulations made by the Board of Agriculture, take three samples of the article, and shall, in accordance with the said regulations, cause each sample to be marked, sealed, and fastened up, and shall deliver or send by post one sample, with the invoice or a copy thereof to the district analyst, and shall give another sample to the seller, and shall retain the third sample for future comparison ; provided that a district analyst, or some person authorised by him in that behalf, with the approval of the body who appointed the analyst shall, on request either by the buyer or by the seller, and on payment of a fee sanctioned by the said body, take the samples on behalf of the buyer.

(3.) The certificate of the district analyst shall be in such form, and contain such particulars as the Board of Agriculture direct, and every district analyst shall report to the Board as they direct the result of any analysis made by him in pursuance of this Act.

(4.) If the seller or the buyer objects to the certificate of the district analyst, one of the samples selected, or another sample selected in like manner, may at the request of the seller, or, as the case may be, the buyer, be submitted with the invoice or a copy thereof, to the chief analyst and the seller, or, as the case may be, the buyer, shall on payment of a fee sanctioned by the Treasury, be entitled to have the sample analysed by the chief analyst, and to receive from him a certificate of the result of his analysis.

(5.) At the hearing of any civil or criminal proceeding with respect to any article analysed in pursuance of this section, the production of a certificate of the district analyst, or if a sample has been submitted to the chief analyst, then of the chief analyst, shall be sufficient evidence of the facts therein stated, unless the defendant or person charged requires that the analyst be called as a witness.

(6.) The costs of and incidental to the obtaining of any analysis in pursuance of this section shall be borne by the seller or the buyer, in accordance with the results of the analysis, and shall be recoverable as a simple contract debt.

VI.—If any person knowingly and fraudulently—

(*a*) Tampers with any parcel of fertiliser or feeding stuff so as to procure that any sample of it taken in pursuance of this Act does not correctly represent the contents of the parcel ; or

(*b*) Tampers with any sample taken under this Act ;

he shall be liable on summary conviction to a fine not exceeding twenty pounds, or to imprisonment for a term not exceeding six months.

VII.—(1.) A prosecution for an offence under this Act may be instituted either by the person aggrieved or by the council of a county or borough, or by any body or association authorised in that behalf by the Board of Agriculture ; but in the case of an offence under section three shall not be instituted by the person aggrieved, or by anybody or association, except on a certificate by the Board of Agriculture that there is reasonable ground for the prosecution.

(2.) Any person aggrieved by a summary conviction under this Act may appeal to a Court of Quarter Sessions.

VIII.—(1.) For the purposes of this Act the expression "cattle" shall mean bulls, cows, oxen, heifers, calves, sheep, goats, swine, and horses; and the expressions "soluble" and "insoluble" shall respectively mean soluble and insoluble in water.

(2.) This Act shall apply to wholesale as well as retail sales.

IX.—In the application of this Act to Scotland

(1.) The expression "council of any county borough" shall mean the magistrates and town council of a burgh, and the duties and powers of councils of counties and county burghs shall be performed and be exercisable in a county by the county councils or district committees thereof, and in a burgh by the magistrates and town council, and the remuneration of district analysts appointed under this Act shall be paid in the case of a county out of the consolidated rate, and in the case of a burgh out of the police or burgh general assessment.

(2) The expression "burgh" means a burgh which returns or contributes to return a member to Parliament, not being a burgh to which section fourteen of the Local Government (Scotland) Act, 1889, applies.

(3.) Penalties for offences under this Act may be recovered summarily before the sheriff in manner provided by the Summary Jurisdiction Acts, and any person aggrieved by a summary conviction may appeal therefrom in accordance with the provisions of those Acts.

X. For the purposes of the execution of this Act in Ireland, inclusive of the appointment of a chief agricultural analyst, the Lord Lieutenant, acting by the advice of the Privy Council, shall be substituted for the Board of Agriculture, and the district analysts shall be the analysts appointed for counties and boroughs in Ireland under the Sale of Food and Drugs Act, 1875, and the additional remuneration of such analysts for their duties under this Act shall be provided in manner directed by the said Act of 1875 and any Act amending the same.

XI. This Act shall come into operation on the first day of January, one thousand eight hundred and ninety-four.

XII. This Act may be cited as the Fertilisers and Feeding Stuffs Act, 1893.

THE GAS SUPPLY OF LONDON.

THE quality of the gas supplied to the City of London for the week ending February 3rd, 1894, was good. According to the report of Mr. W. J. Dibdin, chemist and superintendent gas examiner to the London County Council, the tests made at the various testing stations showed no deficiencies in illuminating power. The following figures have been prepared from the report, and show the average composition of the gas calculated on the mean test:—

Company.	No. of districts tested.	Illuminating power (in stand. sperm candles). Mean average.	Sulphur. Grains in 100 cb. ft. Mean average.	Ammonia. Grains in 100 cb. ft. Mean average.	Sulphuretted hydrogen.
Gas Light and Coke Co.	14	16·35	11·10	0·27	Nil.
South Metropolitan Gas Co.	5	16·40	11·54	0·20	Nil.
Commercial Gas Co. ..	2	16·25	6·60	0·30	Nil.

The supply for the week ending February 10th was also good:—

Company.	No. of districts tested.	Illuminating power (in stand. sperm candles). Mean average.	Sulphur. Grains in 100 cb. ft. Mean average.	Ammonia. Grains in 100 cb. ft. Mean average.	Sulphuretted Hydrogen
Gas Light and Coke Co.	13	16·34	11·28	0·26	Nil.
South Metropolitan Gas Co.	5	16·48	11·76	0·26	Nil.
Commercial Gas Co. ..	2	16·15	7·3	0·70	Nil.

The standard gas supplied by these companies should have an illuminating power of 16 sperm candles, and contain not more than 22 grains of sulphur and 4 grains of ammonia per 100 cub. ft. of gas, on an average of three days, with a pressure of one inch between sunset and midnight, and six-tenths of an inch between midnight and sunset.

PERSONAL.—We learn that Mr. H. Roberts, of the Crown Works, Bancroft-road, London, E., has been asked, and in all probability will stand as Unionist candidate for North-East Bethnal Green constituency. He is well known as the chairman of the Mile End Vestry.

FATALITY AT A CHEMICAL WORKS.—William Blease, of Northwich, aged 20, employed as a labourer at the chemical works of Messrs. Bowman, Thompson, and Company, Lostock Gralam, met his death on Saturday night last by gas poisoning. He was found lying insensible in one of the towers connected with the ammonia soda department, and artificial respiration was applied without effect. It is believed that the deceased, whose presence in the chamber is unaccountable, died from inhalation of carbonic acid gas.

COLLAPSE OF A VITRIOL CHAMBER.—Last Tuesday night the roof of a vitriol chamber, 90ft. by 20ft., and 20ft. high, at the Greenbank Works, St. Helens, of the United Alkali Company, Limited, collapsed, and crashing through the bottom of the tank released about 150 tons of vitriol. The liquid flowed down the bank on which the tank stood into Garden-street, 100ft. below. The crash and flow of vitriol created considerable alarm. As soon as possible lime was added to the vitriol in the street to counteract its effect. The officials estimate the damage at only about £150 for the vitriol, and perhaps £50 or £100 for damage to the structure. Three adjoining chambers, readers will remember, were burnt down in the fire at these works in November last.

Legal Intelligence.

HIGH COURT OF JUSTICE.

QUEEN'S BENCH DIVISION.

(Before Mr. Justice Mathew and Mr. Justice Collins.)

JONES, *Appellant*—BERTRAM, *Respondent.*

This was a milk adulteration case, and it raised a question under the important enactment which excuses the seller if he has bought the commodity in question with a warranty of purity or genuineness, the question being whether it applies unless the seller shows that the article was sold in the same state as when he received it, and it has been held, it will be seen, that it does not. The enactment referred to, section 25 of the Act of 1875, is that if the defendant in any prosecution under the Act proves to the satisfaction of the justices or Court that he purchased the article in question as "of the same nature and quality as that demanded by the purchaser, and with a written warranty to that effect, and that he had no reason to believe at the time when he sold it that the article was otherwise, and that he sold it in the same state as when he purchased it, then he shall be discharged," &c. In this case the charge was that Bertram, a refreshment contractor at the Crystal Palace, had, as alleged, on the 12th of October last, sold to the prejudice of the purchaser, milk which was not of the nature and quality demanded by the purchaser—that is, there being 36 parts in 100 of added water. The case stated that on the 12th of October five churns of milk were delivered at the exhibition by a servant of one Morish to the servant of Bertram with this warranty, "Five churns, 15 gallons. Warranted pure milk, from which the cream has not been extracted, or any water or other substance added to such milk when delivered." The five churns were received by a servant of Bertram, who tested the milk with a lactometer, by which it appeared that the milk in four of the churns indicated ·32 the point given as the standard for pure milk, while in the fifth it only indicated ·26. The milk, however, in the fifth churn being afterwards tested, was found exceptionally good, showing that the lactometer was unreliable. The milk now in question, however, was taken from one of the four other churns. A servant of Bertram took out of one of them six quarts, which were poured into an urn on the counter, and which was in the care of Bertram's servants except for five minutes at a time, when the keeper of the next bar would have charge, and Bertram's servants proved that the milk was not tampered with to their knowledge. Of the six quarts two were sold, and about seven in the evening the appellant purchased a sample of milk from Bertram's bar, which was found upon analysis to contain 36 per cent. of added water, though another sample afterwards taken was found to be only deficient in butter fat, and no mention was made of added water. The magistrate found that Bertram had purchased the milk under a written warranty of its purity, and had no reason to believe that when it was sold it was otherwise, and, so far as the evidence went, they said "the state of the article had not been altered by Bertram or his servants" But they found that the milk was adulterated as stated, and that, in fact, the sale was to the prejudice of the purchaser, and they did not find that, in fact, the milk when sold was in the same state as when received by seller. The magistrate dismissed the summons on the ground that Bertram had purchased the milk as genuine, and with a written warranty to that effect, and that he had no reason to believe that at the time when he sold it it was otherwise, "and that there was evidence before me from which I might infer that, assuming that it was not sold in the same state as when he purchased it the change was not made by himself or his servants, or to his or their knowledge." But he stated a case on the question whether the discision was right in point of law.

Mr. Macaskie appeared on behalf of the prosecutor, who appealed, and argued that the magistrate was wrong as the Act required, in the case of a warranty, that it should be proved that the article when sold was in the same state as when received.

Mr. Lyon, for the respondent, argued that it might fairly be inferred that the milk must have been in the same state when sold as when it was received.

The Court, however, thought otherwise, and upheld the appeal.

Mr. Justice Mathew, in giving judgment, said the conditions of the section as to warranty had not been satisfied. It was not proved and was not found that the milk was in the same state when sold to the customer as when it was received. There was strong evidence that the milk when delivered to Bertram corresponded with the warranty, but when it was sold to the prosecutor it had clearly been adulterated. It was then for the seller to show not only that he had received it under a warranty of genuineness, but that when sold it was in the same state as when received. But this the magistrate had not found. The case, therefore, fell short of what was required to relieve the seller, and the magistrate ought to have convicted him.

Mr. Justice Collins was of the same opinion.

Parliamentary Jottings.

THE FLASH-POINT OF MINERAL OILS.

IN the House of Commons last week Captain Hope asked the Secretary of State for the Home Department whether, in view of statements which had been made in the public press and elsewhere as to the alleged danger of the present flash-point, (73 deg.) of lamp oil sold chiefly amongst the poor, the Government would be willing to grant an inquiry into the subject of the proper legal flash-point of mineral oils at an early date.

Mr. Asquith: It is impossible to deal with this particular point apart from the whole question of amended petroleum legislation. The matter seems to me to be one which could be fittingly investigated by a Parliamentary committee during the coming Session, with a view to legislation.

MINING ROYALTIES.

Mr. Fleming asked the Secretary of State for the Home Department whether it was his intention during the next Session to bring in a Bill to give effect to the recommendations of the Royal Commission on Mining Royalties.

Mr. Asquith: The question of mining statistics is being considered by a departmental committee of the Home Office. The recommendations of the Commissioners on the other subjects turn so much on legal points relating to mining leases, tenants for life, etc., that I have submitted this part of the report to the Lord Chancellor for his consideration.

Mr. Woods asked the First Lord of the Treasury whether, considering the importance of the subject to the nation, he would give a day for the discussion of the Royal Commission's report on Mining Royalties on an early date next Session.

Mr. Gladstone replied that the question appeared to involve the supposition that in the coming Session the Government would have to appropriate the time of the House as they were obliged to do to a very great extent this Session, and that they might in consequence fairly be asked to provide an opportunity for the discussion of a particular subject. But he need not say that the House had not yet resolved upon any surrender of this kind or made any arrangement for the disposal next Session of the time at its command between the Government and independent members, and until that question should come up for consideration he could not give his hon. friend an answer without disparagement to the conduct of business hereafter.

Correspondence.

ANSWERS TO CORRESPONDENTS.

S. N. Co. (Chicago)—Thanks for your advice note.

J. A. W.—By letter.

B. H. (Vienna).—Yes; it was quite right, fourpence post free.

E. K. (A. i S.)—Letter &c., safely to hand. Contents duly noted, for which we are obliged.

M. K. and M. (Berlin).—(1) Thanks for prompt attention. (2) We shall be pleased to do it.

F. J. and Sons.—We have replied direct.

B. H. and Co.—We only received one.

A. J. de B. (Lisbon).—They were sent. Shall be glad to learn anything further not promptly to hand.

G. and D.—12s. 6d., post free, anywhere.

FOREIGN REMITTANCES.

Owing to the inconvenience created by the various ways in which foreign subscriptions are remitted, we respectfully beg to inform subscribers that a *Crossed* Money Order is the most satisfactory method of remitting, both for them and ourselves. In the case of a Money Order, a letter advising us of same should always be sent, otherwise, owing to post-office formalities, much delay in tracing and acknowledging foreign remittances is inevitably entailed in this country.

Market Reports.

REPORT ON MANURE MATERIAL.

The market has been somewhat quiet, but prices do not show much fluctuation. There would be sellers of Florida, 75/80%, phosphate rock, c.i.f. to good United Kingdom ports, 1894 shipment, but for the Continent 8¾d. per unit has been paid, and 9d. required for Baltic ports. Prices asked for the lower grade of rocks, South Carolina and Peace River, do not tempt buyers, and further concessions will probably have to be made to induce very important transactions. Nothing further reported in cargoes of River Plate bones, £4. 15s., delivered good United Kingdom or Continental ports, asked for Spring shipments. Nothing doing in crushed East Indian bones in the absence of supplies. Sales of Bombay bone meal, on spot, have been made at £5. 2s. 6d., ex quay, Liverpool, and £5. required for February-March steamer shipment. Parcels of Mediterranean bones are coming forward, and sales have been made at £4. 12s. 6d. to £4. 13s 9d. per ton, ex quay Liverpool. Nitrate of soda is firmer in the afloat position, and several cargoes arrived or due have changed hands at 9s. 3d. to 9s. 4d. per cwt., according to size and test. Spot is firm at 9s. 4½d. for ordinary quality, and 9s. 6d. for refined. For steamer due March 9s. 4½d. asked, ex quay Liverpool, for refined quality. Ordinary quality due April, the value is 9s 3d. to 9s. 1½d., and due May 8s. 9d. is selling price. 150 tons River Plate Tanking (unground) sold at 9s. 6d. per unit of ammonia, and 10s. per unit phosphate of lime, in bags, gross weights, ex quay Liverpool.

MISCELLANEOUS CHEMICAL MARKET.

There is a good demand all round for alkalies, and values remain steady for all descriptions. Current prices for caustic soda are: f.o.b. Tyne, 77%, £10. 10s. per ton; f.o.b. Liverpool, 74%, £10. 5s.; 70%, £9. 5s.; 60%, £8. 5s.; cream, 60%, £8. per ton, 10-ton lots and upwards, subject to variation according to market; for forward contracts, slightly lower prices are possible. Bleaching powder continues a steady market at £7. 10s. nett, f.o.r. makers' works, softwood casks, and for export £8. per ton, f.o.b. Liverpool, Tyne, etc. Ammonia alkali, 58%, £3. 12s. 6d. per ton, bags, and £3. 17s. 6d. casks, f.o.r. makers' works. Some business has been done, however, at slightly easier rates. Soda crystals dull at £2. 7s. 6d., bags, f.o.r. Recovered sulphur £4. to £4. 2s 6d per ton, in bulk. Vitriol and muriatic acids are selling freely. Chlorate of potash rather easier on the spot at 7¾d, and for 1894, quotations are from 7¼d. to 7½d. per lb. For potash, caustic and carbonate, there is good inquiry, and prices are firm, with a slight hardening tendency. Supplies of white arsenic still scarce, and price remains at £14. nett, Garston, etc. Brown acetate of lime in more abundant supply, but without quotable change. Grey is in a similar position. Acetate of soda is offering at low rates, owing to excess of stock in the market at the present time. Carbolic acid crystals are again firmer, at 6¼d. to 6½d. per lb. for 39/40%, in quantity. Oxalic acid rather dearer. Tartaric and citric acids continue to rule at extremely low rates, and there is not much activity in miscellaneous chemicals used in the textile trades. Values all round, however, are very steadily maintained, and ammonia salts still remain firm, with an advancing tendency in carbonate, muriate, and also in the refined qualities of liquid ammonia. Green copperas rather quiter for spot delivery, but there is no material change in value.

TAR AND AMMONIA PRODUCTS.

Benzol has been without change during the week, and values remain 1s. 3d. and 1s. 4d. for 90's and 50/90's, a tempting figure for those who wish to stock. Crude naphtha, 30% is firm, nearest value being about 8d. Solvent naphtha, 90%, is somewhat easier at 1s 2½d. Crude carbolic acid, 60%, shows little change, and quotation remains 1s. 8d. Pitch keeps on the decline, and this week has brought another drop of sixpence, so that for East Coast 27s. 6d. is now quotation f.o.b.

Sulphate of ammonia has experienced a depression of prices during the week, but this can hardly be attributed solely to a falling off in the demand. "Bears" are taking full advantage of the opportunity afforded by the abstinence exercised by consumers in the hope of lower prices. March, however, is near at hand, and stocks are low. Quotations are:—Beckton £14., London outside makes £13. 15s., Liverpool and Hull £13. 15s., Leith £13. 15s. to £13. 17s. 6d. Forward business is neglected.

THE METAL MARKETS.

LONDON, Wednesday.—Pig iron weak: Scotch warrants closed at 43s. 5½d., Middlesbrough 36s. 1½d. cash, and hematite 45s. 3d. Copper, easier: Chili bars, G.O.B.'s and G.M.B.'s, closed at £41. 10s. to £41. 16s. 3d. cash, and £41. 17s. 6d. to £42. 2s. 6d. three months. Tin, weaker: Straits closed at £67. 10s. to £68. 5s. cash, and £68. 7s. 6d. to £68. 17s. 6d. three months; Australian, £68.; English ingots, £72. 10s. Lead, firm: Spanish, £9. 7s. 6d. to £9. 8s. 9d.; English, £9. 10s. to £9. 12s. 6d. Silesian spelter, ordinary, £15. 15s. Nickel, 1s. 8½d. Antimony, £36. 10s. Quicksilver: first hands, £5. 17s 6d.; second hands, £5. 16s. 6d. *Copper shares* firm: Cape, $1\frac{5}{16}$ to $1\frac{7}{16}$; Copiapo, $1\frac{11}{16}$ to $1\frac{13}{16}$; Libiola, 3⅜ to 3½; Mason and Barry, 2⅜ to 2½; Rio Tinto, 14¾ to 14⅞; Tharsis, 4¾ to 5.

)LVERHAMPTON, WEDNESDAY.—The market was again ıd by improved accounts from Glasgow and Middlesbrough. reports prevented pig iron from falling, and prices were ained at 45s. to 46s. for Derbyshire and Lincoln sorts, and d. to 39s. for Staffordshire common. Hematites were 55s. to orge, and 57s. to 57s. 6d. foundry. Finished iron orders scarce. nising sheets £6. 15s. to £7., plates £7. to £8., common bars, os Manufacturing coal quiet. Ironworks: forge sorts 7s. 6d. , furnace 10s. to 11s

ASGOW, WEDNESDAY.—Market flat, with fair business. h done at 43s 6½d. and 43s. 6d. cash, also at 43s 8½d. and d. one month; closing with buyers at 43s. 5½d. cash, sellers ask d. Cleveland done at 36s. 2½d. and 36s 2d. cash, also at d. and 36s 3½d. one month; closing with buyers at 36s. 1½d. sellers ask 36s. 2d. Cumberland hematite done at 45s. 4d. cash; g with buyers at 45s. 3d. cash, sellers ask 45s. 4d. Middlesbrough tite done at 44s 5d. 14 days; closing with buyers at 44s. 3d. cash, s ask 44s. 4d.

LIVERPOOL OIL AND COLOUR MARKET.

WEDNESDAY.

LS.—Palm oil is weak, even at the easier prices, and there seems dency for values to further decline. Lagos has been selling at per ton, transit. Olive remains almost exactly in *statu quo ante* h prices and position. Linseed is firm, and Liverpool makes in t casks are on the improve, 21s. 6d. per cwt. now being lowest tion. Cottonseed, as surmised last week, is dearer at 20s. 9d. to per cwt. for Liverpool refined, on spot. Scarcity, however, is le cause of the advance. Castor oil is as yet unaltered, 2⅜d. to being present value, with a moderate business passing. First ure French rules at 2½d. to 2⅝d. per lb. Tallow varies a good but is steadier to-day. Resin keeps moving fairly well in all s without alteration in values. Spirits of turpentine are now d 23s. per cwt. but enjoy a steady demand. Petroleum steady, American at 4⅛d. to 5½d., and Russian refined 3½d. to 3⅝d. allon.

)LOURS are steady without alteration in prices. es: Oxfordshire, common, £10., medium, £12., best, £15.; yshire, common, 40s.; medium, 50s., best, 60s.; Welsh, best, seconds, 50s., and common, 18s.; Irish, Devonshire, 40s. to French, J.C., 55s. to 60s.; M.C., 65s. to 67s. 6d. Umber: ish quiet; Devonshire, 50s. to 55s. White lead, and oxide inc unchanged. Venetian red, £6. 10s. to £10. Cobalt: ared oxide, 9s. 9d.; black, 9s.; blue, 6s. Zaffres: No. 1, d.; No. 2, 2s. 6d. Oxide of iron: Common, £6.; medium, ; finest, £20. Zinc oxide, £23. to £25.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, TUESDAY.

provement over the general market seems to be in the air just according to certain vague symptoms and opinions individually essed, but substantial evidence is wanting, and acceptance is ly a matter of mere faith. Prices do not in any case indicate a ite rise, while on the contrary some of the quotations for bleaching ler seem to favour the buying side, and saltcake has made a further . It seems to be the case, however, that over the general market is a bigger bulk of inquiry for quotations—possibly the beginning actual improvement.

lphate of ammonia is unquestionably weaker, with very little doing ot, and nothing at all for forward. Middle holders are selling, they get the chance, at £13. 15s., but most makers seem inclined ll a halt at £13 17s. 6d. There was rumour of a dealer's offer at 12s. 6d., but this is not believed in.

neral oils (lubricating) are cheaper in the lower gravities, but tain position in the higher. Scale and wax hold the old reduced s (soft scale is even a little firmer), but the element of continued lity is wanting. Everything will depend on the attitude of the sh candlemakers at the meeting to take place about a fortnight e.

ief prices current are:—Soda crystals £2. 5s. nett, Tyne; ash £3. 17s. 6d. nett, Tyne; white alkali 48/52° £4. 10s. to £5. Tyne; alum in lump £5. nett, Glasgow; caustic soda, white, 74° 10s., 70/72° £9. 5s., 60/62° £8. 5s., and cream 60/62° £8., nett, Liverpool; bleaching powder £7. 10s., nett, Tyne; ake, 17s 6d.; borax, English refined, £30., and boracic acid, 10s. nett, Glasgow; bicarbonate of soda, 5-cwt. casks, £6. 10s., 1 cwt. casks £6. 15s. nett, Liverpool; bichromate of potash, . nett, for Scotch and English deliveries (for export, 4¼d. nett, . Glasgow); bichromate of soda, 3¾d. nett, for Scotch and English eries (for export, 3½d. nett, f.o.b. Glasgow); chlorate of h, 8d. less 5%, Liverpool; nitrate of soda, 9s. 6d.; sulphate of ammonia, £13. 15s., f.o.b. Leith; salammoniac, first and second white, £39. and £37. nett, any port; sulphate of copper, £15. 5s., less 5% Liverpool; paraffin scale, hard 1⅞d. per lb.; soft 1⅞d. to 2d.; paraffin wax 120° semi-refined 2⅜d. to 2½d.; paraffin spirit (naphtha), 4½d. per gallon; paraffin oil (burning), standard No. 1 grade, 5d. at works, for Scotch buyers (English sales, ½d. to ¾d. lower); ditto (lubricating) 865° £4 to £4. 5s., 885° £4. to £5. 10s., and 890/895° £5. to £6. Week's imports of raw sugar at Greenock were 24,362 bags.

TYNE CHEMICAL REPORT.

TUESDAY.

Chemicals generally are quiet. Bleaching powder, £7. 10s. per ton. Caustic, £9. for 70%; £10. 10s. and £10. 15s. per ton for 76/77%. Soda crystals, £2. 5s. per ton gross weight, locally. Sulphur, £4. 2s. 6d. per ton.

Bleaching Powder, softs, £7. 10s. per ton, nett; hards, £7. 15s per ton, nett; caustic soda, 76/77%, £10. 15s. per ton, nett; do., 70%, £9. 5s. per ton, nett; recovered sulphur, 2cwt. bags, £4. 2s. 6d. per ton, nett; soda ash, 48%, £3. 15s. per ton, nett; do., 52%, £4. 2s. 6d. per ton, nett; do, 56%, £4. 10s. per ton, nett; alkali, 36%, £2. 17s. 6d. per ton, nett; white alkali, 48%, £4. 10s per ton, nett; do, 50%, £4. 15s. per ton, nett; do., 52%, £5. per ton, nett; hyposulphite of soda, 5-7 cwt. casks, £5. per ton; do., 1 cwt. kegs, £5. 10s. per ton, nett; silicate of soda, 75° Tw., £2. 15s. per ton, nett; do., 100° Tw., £3. per ton, nett; do., 140° Tw., £3. 17s. 6d. per ton, nett; soda crystals, casks, £2. 5s. per ton gross weight; do., 2 cwt. bags, £2. 5s. 0d. per ton, nett; chlorate of potash, 8½d. per lb, less 6%; pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £4. 2s. 6d. per ton, nett; blanc fixe, £7. 10s. per ton, nett; chloride of barium, £7. 10s. per ton, nett; carbonate of alumina, £28. 15s. per ton, nett; aluminate of soda, £33. 15s per ton, nett; in 5 ton lots, £28. 10s. per ton, nett.

South Durham Salt unaltered at 9s. to 9s. 6d. per ton f.o.b. Tees, with a fair demand.

Coals.—Prices to-day are weak, though demand is fairly good for the season. Best Northumbrian steam is quoted 10s. 6d. per ton; second qualities, 9s. to 9s. 6d. per ton; bunker coals dull at 7s. 3d. to 7s. 6d. per ton; gas coals 7s 3d. to 7s. 9d. per ton; coke, firm, without alteration, 14s. 6d. to 15s.

The gas coal combination still forms a topic of discussion on 'Change, the general opinion being that the combination will have the effect, probably, of driving away trade from the Durham coal-field. Gas companies, who have to pay increased prices, will either have to advance their rates for gas, or endeavour to obtain supplies of material for illuminating from other sources.

HULL PAINT, OIL, AND COLOUR REPORT.

TUESDAY.

OILS.—Considerable warmth of feeling appears to be manifest in various directions as to the position Hull is to assume in the future, showing advantages for the attraction of trade. The northern ports show considerable jealousy now that they are likely to lose the fostering influence of the North-Eastern Railway Company, who in the past have offered many inducements to shippers by way of preferential charges to divert traffic from Hull to their ports in the North. Amongst the principal imports up to date for 1893 and 1894 are the following:—Linseed 71,533 qrs., against the same time in 1893 14 339 qrs.; rapeseed 17,238 qrs., against 14,695; cottonseed 47,130 tons, against 44,009 tons; olive oil 2,891 casks, against 1,756 casks; rape oil 1,462 casks, against 963 casks; oil cakes 5,095 tons, against 2,367 tons; tallow, 3,168 cwts., against 5,233 cwts.; bones, 1,168 tons, against 850 tons; turpentine 1,513 barrels, against 1,536 barrels. Linseed oil 10s. per ton dearer, closing with buyers at 19s. 7½d. naked spot. Feb.-April also quoted at 19s. 7½d., at which rate there are sellers for May-Aug. Sept.-Dec., after advancing to 18s. 9d., are easier again, and 18s. 6d. now the most obtainable. Casks 17s. 6d, and ordinary barrels 22s. 6d. per ton extra; boiled and refined do., £1. to £2. per ton extra. Export for the week, 1,220 cwts. Refined cotton oil also much firmer and has few sellers, closing with buyers at 18s. 10½d. naked spot, and at same for Feb.-April; May-Aug., 19s. 6d; and £1 per ton extra for edible qualities. Export for the week, 5,780 cwts. Black Sea rape oil in casks, 19s. 6d.; American spirits of turpentine, 23s. 3d. in barrels; cod oil, £17. 10s. to £19. 10s per ton; castor oil, first pressure, 2½d. per lb.; pale seal oil, £21. per ton; sod oil, for curriers, from £16. per ton; brown wool grease, £8. per ton; engine and cylinder oils from 1s. to 2s. per gallon; petroleum jelly, for manufacturing purposes, from 24s. per cwt.

CAKES.—Linseed cakes a few more orders, but the demand remains quiet for the time of the year. 95% pure, £8. 12s. 6d.; ordinary from £7. 5s. to £7. 10s.; Russians, £7. 15s. to £8. 5s.;

Polish, £8. 10s. Cotton cakes: Firm, with moderately good deliveries. Best makes, £5. Rapecakes: East India, £4. 12s. 6d; Black Sea, £3. 17s. 6d.

PAINTS.—More business moving, and a fairly good demand for export orders. Oxide of zinc paint, £22. per ton; oxide of iron dry, from £9. to £18. per ton; venetian red dry, in casks free, from £6. to £10. per ton; red lead, £13. 10s. per ton; white lead, unchanged; ready-mixed paints, in 1, 2, 4, 7, and 14lb. tins, from £26. per ton; oak varnish from 5s. 6d. per gallon; common black varnish, £5. 10s. per ton in barrel f.o.b. or f.o.r.

New Companies.

Foreign Chemical and Electrolytic Syndicate, Limited. CAPITAL £3,000. in 200 £10. and 1,000 £1. shares. This company has been formed to acquire patents relating to the storage and utilization of chemicals, etc.

Saunders and Saunders, Limited. CAPITAL £5,000. in shares of £1. each. This company has been formed to purchase certain loose plant belonging to the trustee of Messrs. Saunders and Saunders, and to carry on the business of chemical manufacturers.

Black Sea Petroleum Company, Limited. CAPITAL £150,000. in shares of £10. each. This company has been formed to carry on the business of dealers in petroleum and other hydro-carbons at home and abroad. The subscribers to the memorandum of association are:—J. B. Fryer, 110, Cannon-street, London, E.C., civil engineer; C. Burn, 110, Cannon-street, London, E.C., contractor; A. Haslett, 64, Cannon-street, London, E.C., commission agent; H. James Fischel, 80, Bishopsgate-street, London, E.C., broker; A. R. Sharman, 34, Old Broad-street, London, E.C., clerk; A. G. Parker, 32, Great St. Helens, London, E.C., gentleman; W. F. Morse, 21, St. Mary Axe, London, E.C., accountant.

Brothers' Chemical. CAPITAL £15,000. in shares of £5. each, divided into 600 A, 1,100 B, 1,300 C. This company has been formed to acquire the business now carried on by W. Brothers, at Rawtenstall, and to carry on the business of manufacturing chemical products. The subscribers to the memorandum of association are:—W. Brothers, Higher Clews, Rawtenstall, manufacturer; A. Brothers, Rawtenstall, chemical manager; A. Brothey, Pleasington, traveller; Wm. Hesketh, 16, Newmarket-street, Blackburn, chemist; E. Haworth, Owens College, professor; J. C. Barbey, Rawtenstall, manager; A. G. Deacon, Manchester, accountant.

Electro-Chemical Company, Limited. CAPITAL £200,000. in shares of £5. each, divided into 26,000 preference and 14,000 ordinary. This company has been formed to enter into an agreement with the Electrolytical Caustic Soda and Chlorine Trust, Limited, for the purchase of certain patents relating to the production of caustic soda and other alkali salts by electrolysis, and also to establish chemical and alkali works. The subscribers to the memorandum of association are: L. Evans, 65, Old Bailey, London, E.C., paper maker; L. Field, Lambeth Marsh, soap merchant; T. M. Dunster, 202, Upper Thames-street, London, E.C., paper agent; W. L. Wakefield, 202, Upper Thames-street, London, E.C., paper agent; W. G. Taylor, 83, Queen Victoria-street, London, E.C., chemical agent; T. Hitchcock, 134, Palmerston-buildings, London, E.C., accountant; R. Fagan, 220, Cromwell-road, London, S.W., corn merchant.

W. and H. M. Goulding, Limited. CAPITAL £250, shares of £5. each. This company has been registered in Du carry on the business of chemists, manufacturers of chemical and chemicals. The subscribers to the memorandum of ass are:—Wm. J. Goulding, D.L., 5, Fitzwilliam-square, Dub Cade, J.P., Frankfort, Cork; S. Harrington, Trafalgar, Cork Roebuck, Grove, Donnybrook, Dublin, gentleman; J. H. R 12, Upper Mount-street, Dublin, solicitor; J. G. Nutting, J. Bachelor's-walk, Dublin; E. A, Goulding, 4, Plowden-bu Temple, London, E.C.

The Patent List.

This list is compiled from Official sources in the Ma Technical Laboratory, under the immediate supervis George E. Davis and Alfred R. Davis, who report profes upon the value of Chemical Patents.

APPLICATIONS FOR ENGLISH LETTERS PATE

Recovering Hydrochloric Acid and Oxide of Manganese from S of Manganese Chloride. M. N. D'Andria. 2,486. February 5.
Method and Apparatus for the Production of Ozone. C. J. Yarnol February 5.
Improved Incandescent Lighting Mantles. J. Moeller. 2,537. Fe
Boiler Incrustation Preventing Composition. W. Fairweather February 6.
Production of Ferro-Ferric and Ferric Oxides. Atkinson Crossle February 6.
Improvement in the Manufacture of Fertilizers. J. J. Seldne Watson, jun. 2,624. February 6.
Rendering Oils Odourless. J. Swallow, C. West, and A. R. Armitage February 6.
Improvement in the Manufacture of Sulphuric Acid. H. R 2,672. February 7.
Glass Furnaces. D. Moore. 2,689. February 7.
Improved Production of Manganese Sulphate and Oxide of R. Davis. 2,696. February 7.
Improved Soap. T de Zebrowski. 2,701. February 7.
Improved Manufacture of Briquettes. T. de Zebrowski. 2,702. Fe
Treating Wavellite and Similar Minerals. J Lagache. 2,722. Fe
Linings for Wood Pulp Digesters. R. Preston and T. Thornley February 8.
Improvements in Electrolytical Decomposing Apparatus. C. 2,806. February 8.
Composite Wood Pavements H. W. Jeffrey. 2,809. February 8.
Storing and Utilising Chlorine. F. E. Matthews 2,814. February
Apparatus for Melting and Purifying Fats C. Heydemann. 2,871.
Apparatus for Softening and Purifying Water. C. H Fitzmauric February 9.
Improvements in Bleaching Fibrous Materials and Manufa Paper. B. Cawthorn and J. P. Cornett. 2,923. February 10.
Improved Apparatus for Electrolysing Liquids. O. Imray. 2,963.
Waterproof Glue. A. J. E. Hill and F. P. Hill. 2,978. February 10.

Gazette Notices.

PARTNERSHIP DISSOLVED.

W. I. CHAPMAN, T. G. MATTESON, AND A. H. E. WOODS, cement manu Sunderland, under the style of Matteson and Chapman; so far as rega Matteson.

IMPORTS OF CHEMICAL PRODUCTS AT THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending February 10th.

Acetic Acid—
Holland, 127 pkgs. A. & M. Zimmermann
" 40 Phillipps & Graves
" 60 Beresford & Co.
" 50 J. Owen

Acetone—
Holland, 12 pkgs. A. & M. Zimmermann

Acid Phosphate—
U. States, 113 pkgs. Seaward Bros.

Alkali—
Germany, 3 pkgs. L. & I. D. Jt. Co.
France, 110 c. Arnati & Harrison

Alum—
Belgium, 24 pkgs. R. W. Greeff & Co.

Aluminium—
Belgium, 23 c. Major & Field

Ammonium Chloride—
Holland, 66 pkgs. H. Lorenz

Amyl Acetate—
Germany, 5 pkgs. F. Stahlschmidt & Co.

Antimony Ore—
Australia, 85 t. Coml. Lightrge. Co.
Sydney, 4 L. & I. D. Jt. Co.

Asbestos—
Italy, £308 Imperial Asbestos Co.
" 230 W. Byford
" 150 Bot. & Nich's Wvs. Co., Ltd.
" 220 Mory & Co.
" 508 Brit. Asbestos Co.
Holland, 400 Cape Asbestos Co, Ld.

Barium Chloride—
Germany, 70 pkgs. H. Lambert

Barytes—
Belgium, 9 cks. J. L. Lyon & Co.
" 20 P. Jantzen
" 23 R. Bew
Germany, 29 W. Harrison & Co.
" 22 21 cs. Magee, Taylor, & Co.

Boracic Acid—
Italy, 11 pkgs. F. Boehm

Camphor—
Germany, 200 pkgs. 571 cs R Warner & Co., Ltd.
" 141 H. A. Litchfield & Co.
" 84 cs. S. Figgis & Co.
" 150 T. Merry & Son
Japan, 82 tbs. L. & I. D. Jt. Co.

Caoutchouc—
France, 3 c. Flageollet & Co.
P. E Africa, 42 Hale & Son
Argentine, 17 Prop. Bull Wf.
E. Indies, 165 Huttenbach & Co
Zanzibar, 4 Prop. Hay's Wf.
" 39 L. & I. D. Jt. Co.
Madagascar, 23 "
" 2 Procter Brs.
" 138 Brookes & Green
" 64 Anderson, Weber, & Smith
France, 18 H. Johns
Zanzibar, 17 Patry

Castor Oil—
Germany, 20 pkgs. City
E. Indies, 516 cks. Cayz
" 32 40 cs. Ross
Italy, 20 Maj
" 65 Stebb
" 19 Evans. Les
France, 12 brls. Grind

Caustic Potash—
France, 16 drs. Spies

Chemicals (*otherwise un*
Germany, 53 pgks. 27 cks.
" 61 A. & M. Zim
" 5 £10 Phillipps
" 7 W
" 10 E
" 18 Dro
" 12 F. St

Citrate of Lime—
Italy, 20 pkgs. B. Jacob & Sons
" 10 Fellows, Morton, & Co.

Cream of Tartar—
France, 2 pkgs. Allan Brs. & Co.
" 2 Sharland & Co.
" 5 F. C. Devon & Co.
" 30 W. C. Bacon & Co.
" 1 E. W. Carling & Co.
" 7 B. & F. Wf. Co., Ltd.
U. States, 41 "
Spain, 6 "
" 5 W. C. Bacon & Co.
Italy, 25 Howards & Sons
" 23 W. Isted
" 8 Fellows, Morton, & Co.

Dextrine—
Germany, 21 pkgs. T. H. Lee
" 100 Hernu, Peron, & Co.
" 300 W. Balchin

Dyestuffs—
Annatto
Ceylon, 8 pkgs. Eastwood & Holt
E. Indies, 17 L. & I. D. Jt. Co.
France, 32 Hoare, Wilson, & Co.
Argols
Italy, 1,165 pkgs. B. Jacob & Sons
" 121 Thames S. T. & L. Co., Ltd.
Canaries, 1 G. S. Bruce
Cochineal
Canaries, 17 pkgs. G S Bruce
" 3 J. Goddard & Sons
" 19 W. M. Smith & Sons
" 168 Swanston & Co.
" 20 Johnson, Hicks, & Co.
Cutch
E. Indies, 500 pkgs. Ross & Deering
" 850 McDougall & Bonthron
" 300 Wrightson & Son
" 99 Henderson Brs.
Extracts
France, 90 pkgs. B. & F. Wf. Co., Ltd.
U. States, 100 L. & I D. Jt. Co.
" 75 Skilbeck Brs.
Belgium, 70 cks. L. J. Levinstein & Sons
Germany, 3 T. H. Lee
Gambier
Germany, 500 pkgs. Butlers Wf., Ltd.
" 260 S. Figgis & Co.
E. Indies, 1,347 Beresford & Co.
" 1,170 L. & I. D Jt. Co.
" 2,216 R. & J. Henderson
" 190 S. Barlow & Bro., Ltd
" 136 Prop. Bull Wf.
" 460 Brown & Elmslie
Indigo
E. Indies, 30 chts. Ross & Deering
" 216 L. & I. D. Jt. Co.
" 22 Kleinwort, Sons, & Co.
" 14 Elkan & Co.
" 14 Ripley. Roberts, & Co.
" 39 Thomasset & Co.
" 43 R. Von Glehn & Sons
" 23 W. Brandts. Son. & Co.
" 20 Benecke, Souchay, & Co.
" 95 Arbuthnot, Latham, & Co.
" 2 Parsons & Keith
" 8 F. Huth & Co.
" 3 Ralli Brs.
" 40 Henderson Brs.
" 18 Croysdale & Co.
" 12 Walker, Munsie, & Co.
" 61 F. W. Heilgers & Co.
Myrabolams
E. Indies, 1,366 pkgs. L. & I. D. Jt. Co.
" 700 Hoare, Wilson, & Co.
A. Turkey, 350 "
E. Indies, 839 J. P. Alpe & Co.
Shumac
Italy, 200 pkgs. S. Barrow & Bro., Ltd.
" 650 J. Kitchin, Ltd.
Tanner's Bark
Belgium, 10 t. Sawer, Sons, & Co
" 19 Leach & Co.
Turmeric
E. Indies, 130 pkgs. L. & I. D. Jt. Co.
Valonia
A. Turkey, 50 t. Anning & Cobb
" 50 S Barrow & Bro., Ltd.
" 20 H. Lorenz

Dyestuffs (*otherwise undescribed*)
Germany, 1 pkge. E. F. Langdale

Farina—
Germany, 50 pkgs. J. Knill & Co.
Holland, 50 Prop. Chmbln.'s Wf.

French Chalk—
Italy, £40 C. F. Gerhardt

Glucose—
Germany, 25 pkgs. 200 c. J. Knill & Co.
" 13 106 M. D. Co.
France, 155 155 Barrett, Tagant, & Co.
U. States, 2,000 2,000 H. Johnson & Sons

Lead Acetate—
Germany, 13 pkgs. Beresford & Co.

Magnesium—
Germany, 4 pkgs. D. W. Greenhough & Son

Manganese—
Japan, 150 t. Julius & Co.
" 12 D. E. Recknell
" 178 J. Greig
E. Indies, 119 Pillow, Jones, & Co.
Pt. Augusta, 22 Harrold Brs.

Manure—
Germany, 10 t. F. W. Berk & Co., Ltd.
E Indies, 100 F. J. Cornwell & Co.
N. Russia, 13 Williams, Torrey, & Co.
Germany, 38 Charles & Fox

Methyl Alcohol—
Sweden, 12 dms. Lister & Biggs
Belgium, 2 cks. Stein Brs.

Mica—
Adelaide, £25 W. M. Smith & Sons

Naphthaline—
Germany, 33 pkgs. Fleming's Oil Co.

Ochre—
France, 41 brls. W. Harrison & Son
Holland, 5 cs. 18 pkgs. Phillipps & Graves
U. States, 127 pkgs. Page, Son & East

Paraffin Wax—
U. States, 201 pkgs. H Hill & Sons
" 600 brls. Prod. Brokers' Co.

Phosphate Rock—
Belgium, 40 t. B. Jacob & Sons
France, 139 Odam's Chmcl. Manure Co.
U. States, 1,035 t. A. Hunter & Co.

Plumbago—
Ceylon, 359 brls R. G. Hall & Co.
" 346 J. Thredder, Son, & Co.
Cochin, 335 cks. Parry & Co.
Holland, 23 B. Gallaway
Italy, 100 bgs. "
" 80 Barrett & Co.
" 100 brls. J. Thredder, Son, & Co

Potassium Carbonate—
France, 60 c. Spies, Bros., & Co
" 100 Charles & Fox
" 40 J. A. Reid

Potassium Silicate—
Holland, 25 pkgs. Spies Brs., & Co.

Potassium Sulphate—
France, 27 pkgs. Mead, Son, & Co.

Pumice Stone—
Italy, 24 t. W. J. Davies & Sons
" 2 Burrell & Co.
" 4 J. Kitchin, Ltd.

Quicksilver—
Italy, 100 flks. 500 btls. L. & I. D. Jt. Co.
" 100 H. Bath & Sons
France, 10 btls. Atkins & Nisbet
Spain, 100 L. & I. D. Jt. Co

Rosin—
U. States, 451 brls. C. Kyte

Salt—
Portugal, £525 Weston & Westall

Saltpetre—
Germany, 51 cks. J. Hall & Son
" 42 Brown & Elmslie
" 70 T. Merry & Son

Sodium Acetate—
Belgium, 160 pkgs. Arnati & Harrison

Sodium Hyposulphite—
Holland, 100 pkgs. F. Boehm

Starch—
Holland, 1,061 pkgs. Little & Johnston
" 40 J. Barber & Co.
" 50 Phillipps & Graves
Belgium, 20 Leach & Co.
" 321 F. Clayden & Co.
" 142 Prop. Scott's Wf.
" 50 F. Rosenthal & Co
U. States, 400 L. & I. D. Jt. Co.
" 250 Beck & Pollitzer
Germany, 1,000 Horne & Co.
France, 16 Sewell & Crowther
Germany, 21 Phillipps & Graves

Stearine—
France, 80 bgs. Bennett S. S. Co.
" 120 H. Hill & Sons
U. States, 135 "
Holland, 61 Robinson, Roberts, & Co.
Belgium, 38 C. S. Lovell
France, 235 G. Boor & Co.

Sulphur—
Italy, 8 t. J. Puddy & Co.
" 5 F. Smith
" 10 J. Kitchin, Ltd.
" 30 A. B. Curtis & Co.
" 5 R. Morrison & Co.
" 23 C. J. Capes & Co.
" 100 Johnson & Hooper
" 300 W. C. Bacon & Co.
" 400 Brandram Brs., & Co.
" 5 H. W. Ison

Tallow and Stearine—
U. States, 4 cks. Allan Brs. & Co.

Tartaric Acid—
Holland, 14 pkgs. B. & F. Wf. Co., Ltd.
" 10 Kirkpatrick & Co.
" 8 F. C. Devon & Co.

Tar Salts—
Germany, 33 pkgs. T. H. Lee
" 33 Fleming's Oil Co.

Tin Oxide—
Holland, 8 cks. H. Lambert

Ultramarine—
Belgium, 18 cs. W. Harrison & Son
" 12 cks. Leach & Co.
Holland, 8 Phillipps & Graves
" 20 5 cs. Hernu, Peron, & Co.
" 11 Magee, Taylor, & Co.
" 7 pkgs. Haeffner, Hilpert, & Co.

Varnish—
France, 5 pkgs. Flageollet & Co.
Holland, 4 W. H. Carey & Sons

Vermilion—
Japan, 1 pkge. Beck & Pollitzer

White Lead—
Holland, 56 cks. W. & A. Hampton
France, 19 Burrell & Co.
" 19 J. Watt & Son
Germany, 24 Thames S. T. & L. Co., Ltd.
Belgium, 12 Beharell & Son
" 7 O'Hara, Matthews, & Co.
" 20 Burrell & Co.

Zinc Oxide—
Germany, 200 pkgs. Prprs. Dowgate Dk.
" 85 cks. J. Matton
" 50 brls. M. Ashby, Ltd.
Holland, 70 "
" 500 cks. Soundy & Sons
" 75 J. Matton
" 6 A. Zumbeck & Co.

LIVERPOOL.

Week ending February 8th.

Albumen—
Marseilles, 10 cs.

Ammonium Sulphate—
Marseilles, 16 brls.

Barytes—
Antwerp, 50 bgs.

Bone Meal—
Karachi, 1,000 bgs.
Bombay, 2,103
Rangoon, 472

Boracic Acid—
Leghorn, 9 cks.

Borates—
San Francisco, 1,025 sks.

Borax—
Havre, 306 sks. Cunard S. S. Co., Ld

Castor Oil—
Marseilles, 27 cks. J. J. Mack & Son
" 242 216 brls.
Genoa, 19 cs. Evans, Sons & Co.
Leghorn, 15 J. J. Mack & Son

Colours—
Hamburg, 3 cks.
Antwerp, 1 brl.

Cottonseed Oil—
New York, 2 brls.
N. Orleans, 300
Baltimore, 50

Cream of Tartar—
Barcelona, 1 pkge. Manchester Chemical Co.
" 5 cks.
Marseilles, 5 brls.
Messina 1 nf.-cs.

Dyestuffs—
Argols
Bordeaux, 87 cks.
Cochineal
Gd Canary, 5 bgs. Kop & Co
Cutch
Rangoon, 1,403 bxs.
Divi Divi
Hamburg, 799 bgs.
Extracts
Fiume, 392 brls. De Clermont & Donner
" 124 Oak Extract Co., Ld.
Nantes, 535 cks. "
New York, 12 bxs. 10 brls.
Marseilles, 6 cks. 20
Antwerp, 1
Fustic
Vera Cruz, 1,509 ps. R. B. Watson & Co.
" 870 Ledward, Bibby & Co.
" 1,872 Bowne, Graham & Co.
Tampico, 12,006 Gruning & Co.
Indigo
Karachi, 20 cs.
Logwood
Belize, 135 t.
Myrabolams
Bombay, 1,959 bgs.
" 639 Ralli Brs.
" 1,334 E. D. Sassoon & Co.
" 3,662 D. Sassoon & Co.
" 334 Aldridge, Salmon & Co.
Orchella
San Francisco, 619 bls.
Valparaiso, 3
Shumac
Trieste, 267 bgs. J. Fletcher, jun., & Co.
Palermo, 2,200 300 bls.
Bordeaux, 91
Marseilles, 1
Palermo, 50 H. Rooke, Son & Co.
Tanner's Bark
Marseilles, 100 bls.

Farina—
Fiume, 250 bgs.
Antwerp, 20

Glucose—
New York, 70 brls.
Hamburg, 63 cks.
Baltimore, 150

Iodine—
Valparaiso, 205 brls. A. Gibbs & Sons
" 160 Lantaro Nitrate Co.

Lead Acetate—
Rouen, 2 cks. Co-op. W'sale Society Ld.

Manganese—
Hamburg, 2 cks.

Mineral White—
Trieste, 2 bgs.

Ochre—
Marseilles, 47 cks.
Rouen, 138 Co-op. W'sale Society, Ld.

Paint—
Boston, 21 cs. T. R. Trotter & Son

Painters' Colours—
Rotterdam, 20 cks.

Paraffin Scale—
New York, 365 brls. H. Hill & Sons
" 512 Standard Oil Co.
Rangoon, 330 cs.

Phosphates—
Aruba, 771 t. Isaac & Samuel
Antwerp, 250 bgs.
Ghent, 250 t.

Pitch—
Amsterdam, 48 cks.

Plumbago—
Colombo, 10 brls.

Potash—
Hamburg, 10 cks.
Rouen, 106 Co-op. W'sale Society, Ld.

Pumice Stone—
Messina, 2 brls.

Pyrites—
Huelva, 3,543 t. Matheson & Co.
" 1,999

Rosin—
Marseilles, 1 cs.

Salt—
Rotterdam, 42,000 ps.
Saltpetre—
Hamburg, 26 cks. 50 brls
Soap—
Rotterdam, 1 ck.
N. Orleans, 2,308 brls.
Marseilles, 6 cs.
Leghorn, 300 Weaver & Sterry
" 20 bxs. Underwood & Co.
" 100 cs.
Naples, 130 P. Behrends
Soda—
Antwerp, 11 cks.
Starch—
Hamburg, 160 cs.
Baltimore, 1,000 bgs.
Antwerp, 142 cs J. T. Fletcher & Co.
" 244
Stearine—
Antwerp, 10 cs. 20 bgs.
Sulphur—
Genoa, 5 brls. Bramley Moore & Co.
Tallow—
New York, 60 tcs.
Boston, 54 brls. 3 hds. J. L Young
San Francisco, 183
Tartar—
Bordeaux, 8 cks.
Tartaric Acid—
Rotterdam, 6 cks.
Turpentine—
Savannah, 3,028 brls.
Ultramarine—
Hamburg, 10 cks.
Bremen, 4
White Lead—
Rotterdam, 54 cks.
Zinc Oxide—
Antwerp, 115 brls.
Zinc White—
Hamburg, 80 cks.

MANCHESTER.

Week ending February 10th.

Alumina Sulphate—
Rotterdam, 132 cks.
Castor Oil—
Rotterdam, 85 cks.
Antwerp, 57 brls.
Colours—
Rotterdam, 12 bxs. 26 pkgs. 39 brls.
" 18 cks.
Antwerp, 2 brls.
Dextrine—
Stettin, 100 bgs. United S. S. Co.
Dyestuffs—
Alizarine
Rotterdam, 23 cks 64 brls. 2 bxs.
Farina—
Stettin, 200 bgs. United S. S. Co.
Glucose—
Stettin, 40 cks. United S. S. Co.
Lead Acetate—
Rotterdam, 17 cks.
Litharge—
Rotterdam, 3 cks.
Minium—
Rotterdam, 8 cks.
Oxalic Acid—
Rotterdam, 16 cks.
Pitch—
Rotterdam, 13 cks.
Potash—
Rotterdam, 20 cks.
Starch—
Rotterdam, 270 cs.
Antwerp, 290
Tartaric Acid—
Rotterdam, 58 cks.
Zinc Oxide—
Rotterdam, 10 cks. 85 brls.

HULL.

Week ending February 10th.

Acetic Acid—
Rotterdam, 20 balns. G. Lawson & Sons
Rotterdam, 20 botls. Hutchinson & Son
Acid—
Amsterdam, 46 cks W. & C. L. Ringrose
Alkali—
Bremen, 2 pks Veltmann & Co.
Alum—
Rotterdam, 70 cks W. & C. L. Ringrose
Barytes—
Antwerp, 86 cks.
Bremen, 23 Veltmann & Co.
" 48 Blundell, Spence & Co.
Rotterdam, 23 Hutchinson & Son
Boracic Acid—
Leghorn, 17 cks. Wilson, Sons, & Co., Ld.
Borax—
Leghorn, 7 pks. Wilson, Sons, & Co., Ld.
Castor Oil—
Bergen, 12 cs Wilson, Sons, & Co., Ltd.
Antwerp, 28 brls. G. & J. Rawstorn
Chemicals *(otherwise undescribed)*
Dunkirk, 40 pks. Wilson, Sons, & Co., Ld.
Bremen 1 cs. Veltmann & Co.
Danzig, 16 cks.
Antwerp, 424 pks. Wilson, Sons, & Co., Ld.
Colours—
Rotterdam, 4 cs 43 pks 21 cks. W. & C. L. Ringrose
" 1 2 1 G. Lawson & Son
" 6 Hutchinson & Son
Flushing, 10 7 10 "
" 15 G. Lawson & Sons
Ghent 60 Wilson, Sons,
Bremen, 3 cks. Veltmann & Co.
" 1 Johnson Brs.
Danzig, 15
Amsterdam, 3 W. & C. L. Ringrose
Dextrine—
Stettin, 101 bgs. Wilson, Sons, & Co., Ltd.
Dyestuffs—
Madder
Rotterdam, 2 cks. Hutchinson & Son
Myrabolams
Bombay, 5,678 bgs.
Farina—
Stettin, 500 bgs. Wilson, Sons, & Co., Ld.
" 260
Harlingen, 1,040
Ghent, 218 bxs. Wilson, Sons, & Co , Ld.
Danzig. 200 bgs
Glucose—
Stettin, 10 cks.
New York, 200 brls.
Kaolin—
Rotterdam, 20 cks. Reckitt & Sons
" 263 bgs.
Manganese—
Rotterdam, 70 cks.
Manganese Oxide—
Rotterdam, 2 cks. Hutchinson & Son
Naphtha—
Rotterdam, 1 ck. Hutchinson & Son
Naphthol—
Hamburg, 9 cks. Bailey & Leetham
Ochre—
Marseilles, 25 cks. Wilson, Sons, & Co., Ltd.
Paint—
Stavanger, 38 pks. Wilson, Sons, & Co., Ld.
New York, 300 cs. "
Phosphate—
Ghent, 2,342 bgs. Wilson, Sons, & Co., Ld.
" 281 t.
Pitch—
Antwerp, 11 cks.
Rotterdam, 7 H. F. Pudsey
Plumbago—
Leghorn, 200 bgs.
Potash—
Rotterdam, 4 cks. G. Holmes & Co.
Pyrites—
Huelva, 500 t.
Soap—
Reval, 5 cs Wilson, Sons, & Co., Ltd.
Starch—
Bremen, 2,893 cs. Veltmann & Co.
Rotterdam, 40 cs. G. Lawson & Sons
Stearine—
Marseilles, 14 bgs. Wilson Sons, & Co., Ld.
Talc—
New York, 154 bgs. Wilson, Sons, & Co., Ld.
Tar—
Hango, 5 brls. J. Good & Sons
Tartar—
Rotterdam, 6 cks. G. Lawson & Sons
Varnish—
New York, 17 brls.
White Lead—
Cologne, 46 cks.
Ghent, 30
Rotterdam, 37 Hutchinson & Son
Zinc Oxide—
Rotterdam, 2 cks. Hutchinson & Son

GLASGOW.

Week ending February 15th.

Arachide Oil—
Rotterdam, 3 cks. J. Rankine & Son
Barium Sulphate—
Antwerp, 300 bgs.
Boracic Acid—
Leghorn, 2 brls.
Castor Oil—
Antwerp, 85 cks.
Leghorn, 5 cs
Chemicals *(otherwise undescribed)*
Rotterdam, 4 cs. 1 bx. J. Rankine & Son
Chrome Ore—
Macri, 2,850 t. J. & J. White
Colours—
Rotterdam, 8 bxs. 9 brls. J. Rankine & Son
" 12 pkgs.
Danzig, 23 cks.
Cottonseed Oil—
Rotterdam, 30 brls. J. Rankine & Son
Dyestuffs—
Alizarine
Rotterdam, 1 bx. J. Rankine & Son
" 97 pkgs.
Extracts
Fiume, 36 brls. Geo. Davidson
Genoa, 50 10 cs.
Rouen, 21 cks.
New York, 72 pkgs.
Logwood
Belize, 92 t. Allison, Cousland & Co.
Shumac
Palermo, 310 bgs. 200 bls.
Valonia
Smyrna, 300 t. W. Bunten & Co.
Farina—
Hamburg, 700 bgs.
Guano—
Bona, 15 bgs.
Nitrate—
Rotterdam, 4 cks.
Ochre—
Rouen, 15 cks.
Phosphates—
Antwerp, 500 bgs.
Bona, 10 300 t.
Phosphate Rock—
Fernandina, 1,727 t. A. Cross & Sons
Tampa, 2,400 "
Potassium Carbonate—
Hamburg, 9 cks.
Pumice Stone—
Leghorn, 60 bgs.
Rosin—
Charleston, S.C., 2,767 brls. L. & J. M'Lellan
" 2,767
Soap—
Fiume, 7 cs.
Starch—
New York, 300 sks. 900 bxs.
Fiume, 50 bgs.
Stearine—
Rotterdam, 58 bls. J. Rankine & Son
Sulphur—
Fiume, 150 bgs. 49 brls. Rowley & Dick
Tar Waste—
Rotterdam, 4 cks.
Tartar—
Messina, 7 cks.
Tartaric Acid—
Rotterdam, 3 cks. J. Rankine & Son
Ultramarine—
Rotterdam, 1 cs. J. Rankine & Son
Varnish—
New York, 23 brls.
White Lead—
Rotterdam, 47 cks. J. Rankine & Son
Zinc White—
Hamburg, 8 cks.
Rotterdam, 50 J. Rankine & Son

TYNE.

Week ending February 10th.

Glucose—
New York, 100 brls.
Limestone—
Antwerp, 3 crts. Tyne S. S. Co.
Ochre—
Rouen, 440 cks.
Paraffin Scale—
New York, 25 brls.
Phosphate—
Rotterdam, 12 cks Tyne S. S. Co.
Rosin—
Amsterdam, 5 cs.
Soda—
Rotterdam, 13 cks. Tyne S. S. Co.
Starch—
Rotterdam, 56 cs. Tyne S. S. Co.
Tallow—
New York, 100 hhds.
Zinc Oxide—
Antwerp, 25 brls. Tyne S. S. Co.

GOOLE.

Week ending February 7th.

Carbonate of Lime—
Antwerp, 66 bgs.
Dyestuffs—
Alizarine
Rotterdam, 73 pkgs.
Dyestuffs *(otherwise undescribed)*
Boulogne, 17 cks. 5 cs.
Ghent, 2
Farina—
Hamburg, 20 bgs.
Delfszyhl, 1,787
Lead Acetate—
Hamburg, 31 cks.
Potash—
Rotterdam, 20 cks.
Dunkirk, 90 dms.
Pyrites—
Huelva, 1,535 t.
Saltpetre—
Hamburg, 64 cks.
Antwerp, 86 bgs.
Rotterdam, 100

GRIMSBY.

Week ending February 10th.

Caoutchouc—
Hamburg, 4 pkgs
Chemicals *(otherwise undescribed)*
Hamburg, 5 pkgs.
Rotterdam, 4
Kainit—
Hamburg, 500 bgs.

EXPORTS OF CHEMICAL PRODUCTS
OF
THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.
Week ending February 14th.

Acids—
Penang, 8 cs. £11
Brisbane, 15 18
Ammonia (Liquid)—
Colombo, 6 cyldrs. £20
Ammonium Carbonate—
Sydney, 23 cs. £39
Brisbane, 2 5
Bordeaux, 5 cks. 28
Yokohama, 13 c. 21
Dunkirk, 19 30
Adelaide 3 6
Ammonium Chloride—
Constantinople, 2 t. 10 c. £83
Antwerp, 4 cks 84
Salonica, 2 5 20 brls. 187
Gothenburg, 1 38
Samsoun, 10 19
Ammonium Nitrate—
Bilbao, 4 cks. £20
Ammonium Sulphate—
Ghent, 238 t. £3,330
Amsterdam, 100 1,400
Hamburg, 90 1,280
Ostend, 46 16 c. 663
Trinidad, 56 6 747
Rotterdam, 50 700
Martinique 28 12 392
Cologne, 100 18 1,344
Arsenic—
Cape Town, 2 cs. £8
Yokohama, 2 t. 10 c. 38
Lyttelton, 2 33
New York, 121 brls 280
Bisulphite of Lime—
Algoa Bay, 1 t. 6 c. £16
Boracic Acid—
Sydney, 10 c. £19
Melbourne, 10 19
Borax—
Sydney, 6 c. £8
Antwerp, 3 cs. 9
Mauritius, 5 c. 9
Calcium Chloride—
Seville, 1 t. £7
Carbolic Acid—
Algoa Bay, 2 cs. £9
B. Ayres, 6 c 12
Yokohama, 1 t. 49
Sydney, 10 cs. 23
Brisbane, 50 2 drs. 48
Rotterdam, 44 cks. 288
Otago, 11 cs. 22
Lyttelton, 1 t 19 c. 36
Calcutta, 2 cs. 10
Antwerp, 24 cks. 28
Cologne, 80 472
Carbon Bisulphide—
Otago, 20 dms. £11
Caustic Potash—
Adelaide, 1 t. 7 c. £25
Caustic Soda—
Natal, 3 t. 14 c. £49
Cape Town, 5 8
Dunedin, 1 12 52
Boca, 11 8
Philadelphia, 14 10 145
Cleveland, 2 9
Calcutta, 10 3 125
Chemicals (*otherwise undescribed*)
Adelaide, 1 cs. 25 crts £33
Durban, 6 pkgs. 14
Fremantle, 8 5 kgs. 1 ck. 47
B. Ayres, 50 115
Algoa Bay, 9 c. 8
Melbourne, 17 cs. 113
Madras, 20 20
Canterbury, 4 c. 9
Citric Acid—
Hiogo, 15 kgs £173
Yokohama, 3 c. 22
Cape Town, 1 cs. 3 28
Melbourne, 2 t. 10 369
Hamburg, 10 75
Amsterdam, 5 39
Libau, 2 12 17 cks. 1,048
Constantinople, 4 33
Lisbon, 4 kgs 5 71
Calcutta, 1 cs. 9
Coal Products—
Alizarine
Lyttelton, 5 pkgs. £72
Libau, 24 cs. 1,531
Aniline
Sydney, 2 cs. £35
New York, 50 45 brls 700
Boston, 3 cks. 20
Anthracene
Rotterdam, 99 cks. £750
Benzol
Treport, 12 cks. £124
Boulogne, 83 20 pns. 424
Calais, 20 19 brls. 198
Creosote
Lisbon, 1,200 cks. £779
Pitch
Dordt, 150 t £262
Boston, 1,000 brls. 451
Naples, 1,099 t 1,550
Colombo, 40 dms. 10
Havre, 18 cks. 50
Rotterdam, 364 t. 510
Dieppe, 450 523
Newport News, 385 bgs 65
Tar
Colombo, 35 runs. £24
Sydney, 100 dms. 18
Gothenburg, 50 cks. 33
Philadelphia, 100 brls. 50
Algoa Bay, 270 dms. 9
Tar and Pitch
Mauritius, 15 rnlts. £8
Tar Oil
Paris, 20 cks. £50
Toluol
Rotterdam, 49 cks. £345
Copperas—
Rotterdam, 4 cks. £11
Copper Sulphate—
Parana Town, 2 t. 10 c. £38
Paris, 5 85
Boulogne, 10 165
Salonica, 1 1 16
Bombay, 2 11 40
Naples, 40 9 596
Dunedin, 5 76
Fremantle, 10 10
Genoa, 44 5 640
Leghorn, 25 8 370
Treport 5 1 85
Oporto, 5 16 94
Odessa, 6 4 90
Cream of Tartar—
Natal, 1 t. £70
Yokohama. 10 c. 39
Melbourne, 4 3 20 kgs 348
Adelaide, 4 258
Sydney, 7 brls. 4 11 387
Canterbury, 10 37
Disinfectants—
Sydney, 3 cks. 10 cs £36
Melbourne, 10 c. 6
Adelaide, 13 7 27
Jamaica, 60 dms. 15
Hamburg, 75 cks. 7 340
Calcutta, 3 182 dms. 29
Bombay, 104 92
Rotterdam, 10 50
Demerara, 12 pkgs. 15
Wellington, 10 c. 18
Brisbane, 8 cs. 19
Flowers of Sulphur—
E. London, 50 cks. £44
Madeira, 1 t. 4 c. 22
Guano—
Landerneau, 290 t. £2,900
Dominica. 5 55
Hyposulphite of Lime—
Hamburg, 4 cs. £65
Lead Acetate—
Melbourne, 10 c £13
Manure—
Sav la Mar, 5 t. £55
Cherbourg, 88 205
Malaga, 78 1 c. 625
Jersey, 62 3 232
Tonnay Charente, 99 8 600
Trinidad, 126 3 1,174
St. Lucia, 5 50
Rouen, 150 670
Treport, 19 19 120
Bordeaux, 49 16 300
Nitric Acid—
Jersey, 43 cbys. £52
Oxalic Acid—
Libau, 4 t. 19 c. £140
Odessa, 1 ck 9
Phosphorus—
Adelaide, 10 c. £100
Dunedin, 9 105
Potash Crystals—
Brussels, 2 cs. £60
Potassium Bicarbonate—
Hiogo, 1 t. 10 c. £44
Yokohama, 9 13
Potassium Chlorate—
Sydney, 10 c. £33
Yokohama, 11 35
Potassium Cyanide—
Natal, 1 c. £11
Salicylic Acid—
Brisbane, 4 cs. £56
Saltpetre—
Algoa Bay, 9 c. £12
Bilbao, 2 t. 10 53
Adelaide, 2 18 64
Madeira, 8 12
Oporto, 7 7 156
Sheep Dip—
Delagoa Bay, 3 c. £8
Algoa Bay, 725 dms. 18 243
Sydney, 16 t. 9 300
Adelaide, 13 12
Soda Ash—
Cleveland, 11 c. £3
Soda Crystals—
Sydney, 11 t. 7 c. £29
Cape Town, 1 2 4
Sodium Bicarbonate—
Sydney, 12 c. £12
Brisbane, 6 6
Auckland, 2 t. 14
Sodium Hyposulphite—
Melbourne, 2 t. 4 c. £12
Sodium Silicate—
Melbourne, 20 t. 9 c. £94
Sodium Sulphite—
Cape Town, 5 c. £35
Sodium Tartrate—
Adelaide, 5 c. £11
Sulphur—
Natal, 1 t. 16 c. £13
E. London, 30 pkgs. 23
Sulphuric Acid—
Delagoa Bay, 15 c. £7
Chinde, 6 20
Superphosphate—
Bordeaux, 20 t. £60
Rotterdam, 126 19 c. 450
Tartaric Acid—
Yokohama, 1 t. £95
Melbourne, 1 94
Sydney, 1 10 c. 147
Hamburg, 2 10
Adelaide, 1 10 151
Otago, 5 24
Canterbury, 3 14

LIVERPOOL.
Week ending February 14th.

Acetic Acid—
Pernambuco, 3 c. 3 q. £6
Alum—
Patras, 2 t. 13 c. £13
Rodosto, 2 19 14
Ammonia (Liquid)—
B. Ayres, 10 c. 1 q. £177
Ammonium Carbonate—
Philadelphia, 1 t. £34
Yokohama, 2 3 c. 1 q. 70
Antwerp, 19 3 34
Naples, 10 14
Ammonium Chloride—
Valparaiso, 1 t. 16 c. £61
Alexandria, 1 40
Beyrout, 15 28
Rodosto, 6 11
Smyrna, 2 74
Antwerp, 1 4 2 q. 31
Galatz, 4 7
Genoa, 6 12
Ammonium Sulphate—
Samarang, 73 t. 2 c. £981
Honolulu, 51 12 773
New York, 7 14
Valencia, 152 2 1 q. 1,827
Antwerp, 6 1 2 77
Gd. Canary, 6 86
Las Palmas, 24 10 349
Philadelphia, 50 12 728
Sourabaya, 250 3,375
Hamburg. 50 711
Antimony—
Santos, 10 cs.
Arsenic—
Santos, 11 c. 1 q. £9
Asbestos—
B. Ayres, 3 bls.
Callao, 1 cs.
Penang. 3
Bleaching Powder—
Boston, 692 cks.
Dunkirk, 18
New York, 455 20 bxs.
Rouen, 58
Vera Cruz, 60
Vigo, 6
Venice, 53
Alexandria, 20 brls.
Baltimore, 203
Genoa, 38
Ghent, 62
Lisbon, 5
Malaga, 4
Naples, 32
Oporto, 14
Trieste. 8
Bone Waste—
Rouen, 6 t. 10 c. £45
Boracic Acid—
Rouen, 11 t. 7 c. £383
Antwerp, 2 9 1 q 101
Toronto, 19 2 37
Copenhagen, 1 5 40
Borax—
Bordeaux, 1 t. 2 c. £30
Havana. 12 16
Amsterdam, 2 6 69
Vera Cruz, 11 14
Borax Crystals—
Rotterdam, 3 t. 14 c. £100
Calcium Chloride—
New York, 10 t. £25
B. Ayres, 4 18 12
Carbolic Acid—
Genoa, 1 t. 12 c. 1 q. £85
Hamburg, 10 32
Rotterdam, 5 5 300
Baltimore, 8 cs. 51
Calcutta, 2 6
N. Orleans, 10 6 3 398
Castor Oil—
Sierra Leone, 1 cs.
Caustic Soda—
Amsterdam, 100 dms.
Barcelona, 50 100 brls.
Boston, 50 28
Cadiz, 6 30 85 kgs.
Carthagena, Sp ,20
,, N.G., 75 25
Ceara, 30
Chicago, 200
Corinto, 58
Galatz, 213
Genoa, 237
Hiogo, 125
Leghorn, 71
Lyttelton, 30
Malaga, 49 2
Malta, 12
Marseilles, 159
Messina, 56
New York, 384 218 30 bxs.
Pernambuco, 25
Puerto Cabello, 15
Samarang, 13
Seville, 132
Sourabaya, 35
Sydney, 67
Valencia, 40
Yokohama, 200
Alexandria, 18
Antwerp, 26
Baltimore, 125 120
B. Ayres, 15 2
Calcutta, 173
Cardenas, 14 pkgs.
Corunna, 20
Hamburg, 10
Ibrail, 10
Lisbon, 80
Melbourne, 90
N. Orleans, 36
Odessa, 75
Panama, 16
Pasages, 40
Rouen, 82
Toronto, 35
Chemicals (*otherwise undescribed*)
Cairo, 3 t. £111
Galatz, 6 c. 11

China Clay—
Barcelona, 8 t. 9 c.
Bombay, 44 5
Rio de Janeiro, 14
Boston, 618 10
Hamburg, 9
Naples, 35
Philadelphia, 375

Chloride Acid—
Trinidad, 10 cks. £126

Chloride Crystals—
Trinidad, 2 cks. £21

Chromium Trioxide—
Hamburg, 1 t. £63

Coal Products—
Alizarine
Lisbon, 1 ck. 2 kgs.
Aniline Colours
Canada, 5 kgs. 1 cs.
Smyrna, 1
Aniline Salts
Canada, 1 cs.
Creosote Oil
Boca, 33 brls.
Pitch
Rouen, 1 ck.
Galatz, 30 brls.
Ibrail, 85
Sulina, 20
Tar
Galatz, 30 brls.
Ibrail, 95
Sulina, 10

Copperas—
Bahia, 4 t. 8 c. 2 q. £10
Galatz, 6 5 13
Bombay, 25 19 3 50
Halifax, 2 17 5
Alexandria, 112 brls. 30

Copper Sulphate—
Rouen, 69 t. 2 c. £981
Venice, 26 10 3 399
Genoa, 6 90
Tarragona, 64 10 3 1,000
Naples, 15 5 1 224
Libau, 28 3 412
Bombay, 5 79
Dunedin, 1 15
St. John's, N.B., 1 3 2 16
Cette, 40 600
Rotterdam, 1 7 1 20
Bordeaux, 208 13 1 2,967
Oporto, 4 16 72
Melbourne, 5 76

Dextrine—
Calcutta, 5 cks.

Disinfectants—
Bombay, 3 t. 8 c. 3 q. £27

Dried Blood—
Rouen, 35 t. 6 c. £280
Gr. Canary, 1 8

Farina—
Bombay, 18 bgs.

Guano—
Las Palmas, 25 t. £60

Iron Oxide—
Toronto, 3 t. £23

Magnesia—
Havana, 5 cs.
Alicante, 40
Havre, 70
Melbourne, 25
Santos, 1 t. £58

Magnesium Carbonate—
Vera Cruz, 3 c. 2 q. £8

Magnesium Sulphate—
Honolulu, 7 cs.
Bombay, 7 cks.

Manganese—
St. John's, N.B., 1 ck.

Manganese Ore—
Hamburg, 13 cks.
St. John's, N.B., 9

Manure—
Valencia, 70 t. 15 c. 3 q. £181
Malaga, 21 19 3 177
Havana, 2 56
Havre, 125 2 373
Antwerp, 12 6 1 35
Rotterdam, 9 17 28
Genoa, 394 14 1,770

Metallic Sodium—
Rotterdam, 5 t. 4 c. £982

Ochre—
Valparaiso, 5 kgs.

Oxalic Acid—
Philadelphia, 1 t. 15 c 3 q. £13
Melbourne, 1 1 32

Paint—
Gibraltar, 4 brls. 17 pkgs.
Guayaquil, 17 cs.
Halifax, 14 dms.
Havre, 15 kgs.
Hong Kong, 48
Lisbon, 12
Malta, 20 cks. 38
M. Video, 14 50 cs.
N. Orleans, 40
Ponce, 2
Port au Prince, 6
Rosario, 6
Santos, 2
Sierra Leone, 40
Valparaiso, 110
Cadiz, 20
Cape Town, 40
Dunkirk, 6 6
Gr. Canary, 40
Loango, 3
Malta, 3
Manaos, 8
Panama, 18
Santiago de Cuba, 1
St Thomas, 5
St. Thome 70
Santander, 4 brls.

Painters' Colours—
Alexandria, 480 kgs. 20 brls.
Baltimore, 30 cks.
Bombay, 228 26 cs.
B. Ayres, 30
Ceara, 14 5 2
Cienfuegos, 3 3
Guayaquil, 2 3
Madagascar, 166 tins.
Manaos, 10 kgs. 2 4 1
M. Video, 24
New York, 18
Para. 20
Rio de Janeiro, 2
Talcahuano, 25
Valparaiso, 20 15 12
Abonema. 10
Algoa Bay, 40 7
Amsterdam, 9 11 dms.
Beyrout, 4
Boston, 7
Cardenas, 2 cs.
Havana, 10
Ibrail, 3
Mauritius, 41 50 dms.
Oporto, 14

Paraffin Wax—
Bilbao, 30 cs.
Boston, 50
Para, 10

Phosphorus—
Trinidad, 2 cs. £22
Tampico, 5 56
Mexico., 5 56

Picric Acid—
New York, 2 t. £150
Philadelphia, 2 c. 2 q. 14

Potashes—
Rosario, 3 c. £6

Potassium Bichromate—
Pasages, 1 t. 9 c. 2 q. £56

Potassium Carbonate—
Rosario, 4 c. £6
Bilbao, 1 t. 2 q. 16

Potassium Chlorate—
Hiogo, 30 t. £1 916
Genoa, 4 10 c. 266
Copenhagen, 1 10 98
Hamburg, 2 10 153
Hong Kong, 3 10 209
Vera Cruz, 3 198
Kurrachee, 8 31
Boston, 2 10 152
B. Ayres, 1 56
New York, 15 868
Naples, 6 24
Leghorn, 1 56
Antwerp, 4 13
Gothenburg, 10 30
Trieste, 2 6

Potassium Prussiate—
Bombay, 5 c. £30

Potassium Silicate—
Amsterdam, 1 t. 4 c. 1 q. £6

Salt—
Adelaide, 50 t.
Antwerp, 110
Assinee, 10
Axim, 25
Boston, 100
Brisbane, 40
Chicago, 210
Degama, 25
E. London, 13 6 c.
Ghent, 75
Gr. Bassa, 10
Manaos, 8
Melbourne, 500
New York, 65
Opobo, 100
Orewai, 5
Rotterdam, 218
Ambrizette, 4 10
Benin, 33 9
Bombay, 3 15
Buguma, 46
Coquimbo 250
Demerara, 17 17
Lagos, 126 3
Loango. 20 3
Portland. Me, 10
Pt. Natal, 505 5
Salt Pond, 20
Shanghai, 8
Sioux City, 65
South Omaha, 65
Trinidad, 14
Yokohama, 2 3

Salt Cake—
Dunedin, 10 t. 13 c £30
Brussels, 191 143
New York, 75 17 1 q 86
Baltimore, 50 13 101
Ghent, 100 83

Saltpetre—
Manaos, 6 c. 3 q. £8
Piræus, 18 387
Callao, 1 6 30
Para, 1 24
Gd. Canary, 1 1 23
B. Ayres, 1 23
Halifax, 17 2 20
Pernambuco, 1 25

Sheep Dip—
Odessa, 11 c £6

Soap—
Accra, 236 bxs.
Algiers, 21
Algoa Bay, 570 40 cs. 20 pkgs.
Anamaboe, 52
Annatto Bay, 30
Axim, 25
Bathurst, 45
Benin, 500
Bluefields, 50
Bombay, 1,206 13
Calcutta, 55
C C. Castle, 96
Cape Town, 2,563 29
Christiania, 95
Colon, 100
Degama, 8
Drewin, 100
Durban. 104
E. London, 775 4
Ferrol, 28
Gibraltar, 180
Havre, 300
Kingston, Ja., 3,531
Kurrachee, 900
Macassar, 1,000
Manaos, 1,460
Mauritius, 3,000
Monrovia, 72
Panama, 55
Para, 200
Pt. Natal, 2,000
Rangoon, 5
Shanghai, 6,553
Singapore, 1,500
Teneriffe, 75
Alexandria, 8
Amsterdam, 200
Antofagasta, 20
Barbadoes, 200
Brussels, 412
Cairo, 9
Canada, 1
Curacao, 470 14
Las Palmas, 604
Leghorn, 10
Madras. 3
Trinidad, 100

Soda Alkali—
Bilbao, 17 brls.
Corfu, 50
Melbourne, 40

Soda Ash—
Adelaide, 111 brls.
Amsterdam, 27 cks.
Antwerp, 650 bgs.
Baltimore, 159 tcs. 435 cks. 5,381
Boston, 64 70 1,760
B. Ayres, 255 cks 239 brls.
Calcutta, 6
Callao, 20 dms. 25
Ceara, 6
Genoa, 5 560
Gothenburg, 50
Hiogo, 16
Melbourne, 264
M. Video, 50
New York, 229 3,215
Oporto, 10
Pernambuco, 30
Philadelphia, 413 248 tcs. 4,000
Puerto Cabello, 10
Rio de Janeiro, 4
Rosario, 150 brls.
Salonica, 120
Santos, 25
Yokohama, 50
Kurrachee, 25 kg
Lisbon, 17
Piræus, 20
Smyrna, 75

Soda Crystals—
Alexandria, 50 brls.
Barcelona, 2 cks.
Boston, 414 210 50 kgs.
Constantinople, 50
Malta, 75 50
New York, 224
Oporto, 26
Halifax, 20
Pt. Natal, 25
Rotterdam, 50
Toronto, 20

Soda Salts—
Rouen, 50 bgs.

Sodium Arseniate—
Pasages, 1 ck.

Sodium Biborate—
Antwerp, 20 cks.
Hamburg, 2
Havre, 40 cs. 8 brls.
M. Video, 24
Toronto, 24

Sodium Bicarbonate—
Alexandria, 10 kgs. 50 brls.
Alicante, 75
Antwerp, 108 2 cks.
Barcelona, 280
Bombay, 200
Brisbane, 200
B. Ayres, 204
Calcutta, 100
Colombo, 50 6
Hamburg, 279 22
Marseilles, 108
Melbourne, 50
Oporto, 60 20
Philadelphia, 180
Seville, 40
Valencia, 100
Vera Cruz, 40
Boston, 125
Halifax, 330
Kurrachee, 150
Malta, 30 bgs.
Smyrna, 20
Venice, 450
Vigo, 8 cks.

Sodium Bichromate—
Pasages, 3 kgs.

Sodium Chlorate—
New York, 60 kgs.
Hamburg, 40

Sodium Oxide—
Marseilles, 10 cs.

Sodium Phosphate—
Pasages, 1 ck.

Sodium Silicate—
Barcelona, 35 brls.
Cienfuegos, 6
Corfu, 32 cks.
Corinto, 24
Hamburg, 30 bgs.
Torryhus, 20 brls.
Valencia, 10

Sodium Sulphate—
Lisbon, 2 t. 1 c

Stearine—
Pernambuco, 10 cks.

Sulphur—
Maceio, 19 c.
Pernambuco, 5 t. 19
Antwerp, 10
Boston, 300 6
Philadelphia, 60

Superphosphate—
Gr. Canary, 23 t. 10 c.
Venice, 1,655
Nantes, 298 8

Turpentine—
Conakry, 20 dms.
Penang, 70

Varnish—
Malta, 6 bxs. 1 dm.
M. Video, 1 cs.
Valparaiso, 1
Bombay,
St. Thome, 1

Zinc Chloride—
Bombay, 13 11

Zinc Oxide—
Valparaiso,

Zinc Sulphate—
Bombay, 3 t. 4 c. £63
Zinc White—
Rouen, 24 cks.

MANCHESTER.

Week ending February 15th.

Ammonium Carbonate—
Antwerp, 10 kgs.
Ammonium Sulphate—
Antwerp, 492 bgs.
Aniline Colours—
Hamburg, 8 cks.
Caoutchouc—
Rotterdam, 3 bls.
Caustic Soda—
Latakia, 30 cks.
Colours—
Hamburg, 2 pkgs.
Soap—
Hamburg, 3 cks.
Tar Oil—
Antwerp, 2 dms.
Hamburg, 36
Rotterdam, 43 cks.
Treport, 40
Tin Salts—
Rotterdam, 54 cks.
Zinc Chloride—
Rotterdam, 20 cks.

HULL.

Week ending February 10th.

Alkali—
Hango, 15 cks.
Libau, 200
Ammonium Sulphate—
Antwerp, 94 bgs.
Dunkirk, 1,391
Ghent, 934
Hamburg, 1,000
Rotterdam, 371
Anthracene—
Rotterdam, 58 cks.
Bleaching Powder—
Bombay, 66 dms.
Boston, 166 cks.
Carbolic Acid—
Rotterdam, 25 cks.
Caustic Soda—
Bombay, 103 dms.
Harlingen, 18
Konigsberg, 53
Chemicals (*otherwise undescribed*)
Antwerp, 2 cs. 164 pks.
Amsterdam, 200 cks.
Bombay, 80
Copenhagen, 7 5
Christiania, 20
Gothenburg, 30 pkgs.
Hamburg, 38 207 cs.
Kurrachee, 125
Libau, 8
Odessa, 60 pks. 60
Reval, 12 cks. 40
Rotterdam, 28 44 cs.
Copperas—
Libau, 2 cks.
Cottonseed Oil—
Antwerp, 964 c.
Alexandria, 346
Bremen, 298
Cologne, 1,049
Dusseldorf, 153
Duisberg, 100
Gothenburg, 151
Hamburg, 250
Konigsberg, 134
Rotterdam, 3,034
Stettin, 300
Uerdingen, 402
Creosote—
Bergen, 6 cks.
Dyestuffs (*otherwise undescribed*)
Constantinople 3 cks.
Reval, 57
Rotterdam, 48
Guano—
Dunkirk, 253 bls.
Linseed Oil—
Antwerp, 113 c.
Alexandria, 14
Bremen, 10
Bergen, 3
Christiania, 449
Hamburg, 260
Rotterdam, 47
Logwood—
Antwerp, 80 bls.
Naphtha—
Dunkirk, 20 cks.
Naphthylamine—
Reval, 4 cks.
Paint—
Bombay, 80 kgs.
Painters' Colours—
Antwerp, 111 cks. 7 dms.
Amsterdam, 1
Bombay, 85 1
Copenhagen, 29 2 cs.
Christiania, 15
Dunkirk, 4
Drontheim, 21
Gothenburg, 1
Hango, 1
Hamburg, 3
Libau, 1
New York, 60
Odessa, 254
Rouen, 43 4
Reval, 20
Rotterdam, 1
Pitch—
Antwerp, 413 t.
Dunkirk, 72
Kurrachee, 315 cks.
Tar—
Amsterdam, 9 cks.
Bremen. 1
Copenhagen, 20
Rotterdam, 3
Tar Salts—
Reval, 20 cks.
Turpentine—
Alexandria, 2 dms.
Drontheim, 5 cks.
Varnish—
Amsterdam, 1 cs. 3 cks.
Copenhagen, 5
Christiania, 7
Gothenburg, 2
Harlingen, 1 ck.
Hamburg, 2 20 bls.
Rotterdam, 4

GLASGOW.

Week ending February 15th.

Acetic Acid—
Lisbon, 2 t. 11 c. £23
Acid—
Rangoon, £54
Ammonium Sulphate—
Mauritius, 112 t. 13¾ c. £1,568
Hamburg, 71 845
Bleaching Powder—
Bombay, 3 t. 5½ c. £30
Boracic Acid—
Japan, 2 t. 10 c. £92
Borax Crystals—
Lisbon, £37
Carbolic Acid—
Dunedin. 1 t. 8¾ c. £45
Castor Oil—
Hjeddah, 1 t. 6¾ c. £50
Caustic Soda—
Dunedin, 5 t. ¾ c. £45
Chemicals (*otherwise undescribed*)
Cape Colony, 8 t. £114
Coal Products—
Alizarine Oil
Lisbon, £20
Aniline Salts
Lisbon, 10 c. £33
Naphtha
Dunedin, 5½ c. £22
Pitch
Alexandria, 7 t. 11 c. £34
Granville, 38 17 38
Madras, 27
Oporto, 265 7 355
Gijon, 613 16¾ 829
Antwerp, 107
Tar
Boston, 49 t. 17¾ c. £110
Tar Oil
Cape Colony, 6 t. 13 c. £28
Coal Tar Products (*otherwise undescribed*)—
Rotterdam, 14 dms. 22 puns. £270
Colours—
Dunedin, 1 t. 15 c. £33
Dyestuffs—
Extracts
Boston, 10 t. 14 c. £53
Fustic Extract
Boston, 1 t. 3¾ c. £51
Logwood
Oporto, 9 t. 4¾ c. £84. 13s.
Turmeric
Boston, 1 t. 2¾ c. £20
Glucose—
Cape Colony, 7 t. £70
Linseed Oil—
Cape Colony, 1 t. 10¾ c. £33
Singapore, 900 glns. 107
Dunedin, 23 t. 19 c. 570
Alexandria, 1 5 29 15s.
Hjeddah, c 2 2 46. 10s.
Manganese—
Hamburg, 7 t. 18 c. £85
Paint—
Rangoon, 3 t. 16 c. £54
Singapore, 9 13¾ 146
Japan, 5 18¾ 96
Dunedin, 4 10 92
Painters' Colours—
Cape Colony, £102
Dunedin, 220
Oporto, 3 t. 6½ c. 70. 15s.
Paraffin Wax—
Bordeaux, 11¾ c. £20
Hamburg, 2 t. 7 61
Japan, 46 2½ 1,084
Gijon, 11 1¼ 290
Nantes, 6 8½ 160
Antwerp, 3 7 70
Christiania, 1 32
Potassium Bichromate—
Lisbon, 5 t. 1¼ c. £201
Nantes, 5 7¼ 203
Antwerp, 5 5¼ 204
Rosin Oil—
Rotterdam, 9 brls. £18
Amsterdam, 6 12
Soap—
Dunedin, 18 c. £27
Lisbon, 3 t. 56
Soda Crystals—
Hjeddah, 8½ c. £2. 10s.
Sodium Arseniate—
Lisbon, 1 t. 11 c. £20
Sodium Bichromate—
Antwerp, 6 t. 12 c. £220
Tallow—
Rotterdam, 7 t. 3 c. £200
Tar Acids—
Boston, 21 t. 8 c. £85
Turpentine—
Hjeddah, 2 t. 1¾ c. £47
Varnish—
Cape Colony, 8¼ c. £31
Huelva, 4 24
White Lead—
Hamburg, 1 ck. £1
Hong Kong, 3 t. 63
Japan, 5 15¾ c. 120
Dunedin, 17 10½ 356

TYNE.

Week ending February 10th.

Alkali—
Amsterdam, 89 t. 17 c.
Rotterdam, 2 3
Copenhagen, 10 3
New York, 194 13
Gothenburg, 5 11
Alumina Sulphate—
New York, 4 t. 19 c.
Ammonium Sulphate—
Odense, 2 t. 10 c.
Dunkirk, 25
Antimony—
Ergasteria, ½ c.
Rotterdam, 10 t.
New York, 60
Gothenburg, 50
Barium Binoxide—
New York, 1 t.
Dunkirk, 5 1 c.
Barium Carbonate—
New York, 37 t.
Blanc Fixe—
Antwerp, 1 t. 2 c.
Bleaching Powder—
Amsterdam, 22 t. 4 c.
Genoa, 7 2
Antwerp, 30 13
Hamburg, 45 7
Christiania, 15 14
Rotterdam, 37 16
New York, 133 7
Venice, 12 14
Lisbon, 15 4
Valparaiso, 15 3
Gothenburg, 9 19
Borax—
Ergasteria, 2 c.
Caustic Soda—
Amsterdam, 14 t. 6 c.
Genoa, 3
Hamburg, 3 9
New York, 178 6
Venice, 25 4
Chloride of Lime—
New York, 100 t. 4 c.
Litharge—
Amsterdam, 1 t. 2 t.
Hamburg, 11
Rotterdam, 1 2
Copenhagen, 2 1
New York, 1 10
Dunkirk, 1
Magnesia—
Genoa, 1 c.
Antwerp, 5
Hamburg, ¼
Oxalic Acid—
New York, 5 t. 17 c.
Paint—
Venice, 19 c.
Phosphate—
Valencia, 5 t.
Potassium Chlorate—
Genoa, 5 c.
Rosin Oil—
Rotterdam, 3 t. 18 c.
Soda—
Amsterdam, 90 t. 18 c
Antwerp, 1 10
Christiania, 18 15
Stavanger, 5 4
Rotterdam, 50 15
Frederikshavn, 9 7
Soda Ash—
Hamburg, 2 t. 9 c.
Christiania, 13
Copenhagen, 30 4
Venice, 20 8
Lisbon, 10
Gothenburg, 12 16
Sodium Bicarbonate -
New York, 4 c.
Sodium Hyposulphite—
New York, 30 t.
Sodium Sulphate—
Copenhagen, 1 t. 5 c.
Venice, 30 2
Lisbon, 30 6
Sulphur—
Sarpsborg, 400 t.
Drontheim, 50
Superphosphate—
Genoa, 400 t.
Venice, 600 1 c
La Rochelle, 510 4
Tallow—
Hamburg, 1 t. 2 c
White Lead—
Christiania, 2 t. 17 c.
Copenhagen, 1 8
New York, 12

GOOLE.

Week ending February 7th.

Chemicals (*otherwise undescribed*)
Rotterdam, 1 ck. 1 pkge.
Coal Products (*otherwise undes.*)
Antwerp, 50 cks.
Rotterdam, 112 20 dms.
Creosote—
Kuysna, 1,850 brls.
Dyestuffs (*otherwise undescribed*)
Hamburg, 6 kgs.
Manure—
Ghent, 187 bgs.
Pitch—
Antwerp, 383 t.
Sodium Sulphate—
Ghent, 168 t.

GRIMSBY.

Week ending February 10th.

Chemicals (*otherwise undescribed*)
Dieppe, 5 cs.
Hamburg, 12 botls.
Coal Products—
Dieppe, 36 cs. 55 cks.
Farina—
Dieppe, 4 sks.
Pitch—
Antwerp, 55 t.

PRICES CURRENT. WEDNESDAY, February 21st, 1894.

Prepared by Messrs. Higginbottom and Co., 116, Portland Street, Manchester.

The values stated are f.o.r. at maker's works, or at usual ports of shipment in U.K. The price in different localities may vary.

	£	s.	d.
Acids:—			
Acetic, 25 °/₀ and 40 °/₀ per cwt.	7/- & 11/-		
,, Glacial per cwt.	50/-		
Arsenic S.G., 2000° per cwt.	0	14	6
Fluoric per lb.	0	0	3¾
Muriatic (Tower Salts), 30° Tw. per bottle	0	0	10
,, (Cylinder), 30° Tw. per cwt.	0	3	0
Nitric 80° Tw. per lb.	0	0	1¾
Nitrous per lb.	0	0	1¾
Oxalic nett per lb.	0	0	3¾
Phosphoric, 1750° per lb.	0	1	2½
Picric per lb.	0	1	0
Sulphuric (fuming 50 °/₀) per ton	15	10	0
,, (monohydrate) per ton	5	10	0
,, (Pyrites, 168°) per ton	3	0	0
,, ,, 150° per ton	1	5	0
,, (free from arsenic, 145°) per ton	1	6	0
Sulphurous (solution) S.G. 1025 per ton	3	0	0
Tannic (pure) per lb.	0	1	2
Tartaric per lb.	0	0	11
Arsenic, white powdered nett per ton	14	0	0
Alum (loose lump) per ton	5	2	6
Alumina Sulphate (pure) per ton	5	0	0
Aluminoferric per ton	2	10	0
Aluminium per lb.	0	3	0
Ammonia, Anhydrous per lb.	0	1	2
,, ·880=28° per lb.	0	0	3
,, =24° per ton	0	0	2¼
,, Carbonate nett per ton	0	0	3¾
,, Muriate per ton	25	10	0
,, ,, (sal-ammoniac) 1st & 2nd per cwt.	39/- & 37/-		
,, Nitrate per ton	44	0	0
,, Phosphate per lb.	0	0	10½
,, Sulphate (grey) London per ton	13	15	0
,, ,, (grey) Hull per ton	13	15	0
Aniline Oil (pure) per lb.	0	0	5¾
Aniline Salt ,, per ton	0	0	5½
Antimony per ton	45	10	0
,, (tartar emetic) per lb.	0	1	0
,, (golden sulphide) per ton	0	0	10
Barium Chloride per ton	6	15	0
,, Carbonate (native) per ton	3	10	0
,, Sulphate (native levigated) per ton	45/- to 75/-		
Bleaching Powder, 35 % nett per ton	7	10	0
,, Liquor, 7 % per ton	3	10	0
Bisulphide of Carbon per ton	11	15	0
Chromium Acetate (crystal) per lb.	0	0	6
Calcium Chloride per ton	2	5	0
China Clay (at Runcorn) in bulk per ton	17/6 to 35/-		
Coal Tar Products and Dyes:—			
Alizarine (artificial) 20 % net per lb.	0	0	8
Magenta per lb.	0	3	9
Anthracene, 30 % A, f.o.b. London per unit per cwt.	0	1	1
Benzol, 90 % nominal per gallon	0	1	3
,, 50/90 ,, per gallon	0	1	4
Carbolic Acid (crystallised 40°) per lb.	0	0	6½
,, (crude 60°) per gallon	0	1	8
Creosote (ordinary) per gallon	0	0	2½
,, (filtered for Lucigen light) per gallon	0	0	3
Crude Naphtha 30 % @ 120° C. per gallon	0	0	8
Grease Oils, 22° Tw. per ton	2	5	0
Pitch, f.o.b. Liverpool or Garston per ton	1	7	6
Solvent Naphtha, 90 % at 160° per gallon	0	1	2½
"Lucigen" and "Wells Oils per gallon	0	0	2½
Copper per ton	41	10	0
,, Sulphate per ton	15	10	0
,, Oxide (copper scales) per ton	40	0	0
Glycerine (crude) per ton	13	0	0
,, (distilled S.G. 1250°) per ton	43	0	0
Iodine nett, per oz.	0	0	9
Iron Sulphate (copperas) per ton	1	10	0
,, Sulphide (antimony slag) per ton	2	0	0
Lead (sheet) for cash per ton	10	12	6
,, Litharge Flake (ex ship) per ton	13	0	0
,, Acetate (white ,,) per ton	26	0	0
,, ,, brown ,,) per ton	17	10	0
,, Carbonate (white lead) pure per ton	20	0	0
,, Nitrate per ton	20	0	0
Lime, Acetate (brown) per ton	6	10	0
,, ,, (grey) per ton	10	5	0
Magnesium (ribbon and wire) per oz.	0	2	3
,, Chloride (ex ship) per ton	2	10	0
,, Carbonate per cwt.	1	17	6
,, Hydrate per ton.	17	0	0
,, Sulphate (Epsom Salts) per ton	2	19	0
Manganese, Sulphate per ton	17	15	0
,, Borate per cwt.	2	12	6
,, Ore, 70 % per ton	4	5	0
Methylated Spirit, 61° O.P. per gallon	0	2	2
Naphtha (Wood), Solvent per gallon	0	3	9
,, ,, Miscible, 60° O.P per gallon	0	5	0
Oils:—			
Cotton-seed per ton	22	0	0
Linseed per ton	21	10	0
Petroleum, Russian per gallon	0	0	3¾
,, American per gallon	0	0	5½
Phosphorus (yellow) per lb.	0	2	2
,, (red) per lb.	0	2	9
Potassium (metal) per oz.	0	3	7
,, Bichromate nett per lb.	0	0	4½
,, Carbonate, 90% (ex ship) per ton	16	10	0
,, Chlorate per lb.	0	0	7½
,, Cyanide, 98% per lb.	0	2	0
,, Hydrate (Caustic Potash) 80/85 % per ton	21	15	0
,, ,, (Caustic Potash) 75/80 % per ton	20	10	0
,, ,, (Caustic Potash) 70/75 % per ton	20	0	0
,, Nitrate (refined) per cwt.	1	2	6
,, Permanganate per cwt.	3	5	0
,, Prussiate Yellow per lb.	0	0	10¾
,, Sulphate, 90 % (ex ship) per ton	9	15	0
,, Muriate, 80 % (do.) per ton	8	5	0
Silver (metal) per oz.	0	2	4¾
,, Nitrate per oz.	0	2	10
Sodium (metal) per lb.	0	3	4
,, Carb. (refined Soda-ash) 48 % nett per ton	5	5	0
,, ,, (Caustic Soda-ash) 48 % ,, ,, F.O.B.	4	2	6
,, ,, (Carb. Soda-ash) 48% ,, ,, F.O.B.	4	2	6
,, ,, (Carb. Soda-ash) 58 % ,, ,, F.O.B.	4	2	6
,, ,, (Soda Crystals) ,, ,, F.O.B.	3	0	0
,, Acetate (ex-ship) per ton	15	0	0
,, Arseniate, 45 % per lb.	11	0	0
,, Chlorate per lb.	0	0	8¾
,, Borate (Borax) net, per ton.	28	0	0
,, Bichromate ,, per lb.	0	0	3¾
,, Hydrate (77 % Caustic Soda)(f.o.b.) net pr. ton	10	15	0
,, ,, (74 % Caustic Soda) ,, ,, ,, 10 ton lots	10	5	0
,, ,, (70 % Caustic Soda) ,, ,, ,, 10 ton lots	9	5	0
,, ,, (60 % Caustic Soda) ,, ,, ,, 10 ton lots	8	5	0
,, ,, (60 % Caustic Soda, cream) (f.o.b.) ,, 10 ton lots	8	0	0
,, Bicarbonate per ton	6	15	0
,, Hyposulphite per ton	5	15	0
,, Manganate, 30% per ton	10	0	0
,, Nitrate (95 %) ex-ship Liverpool per cwt.	0	9	4½
,, Nitrite, 98 % per ton	29	10	0
,, Phosphate per ton	15	0	0
,, Silicate (glass) per ton	5	7	6
,, ,, (liquid, 100° Tw.) per ton	4	5	0
,, Stannate, 40 % per cwt.	3	0	0
,, Sulphate (Salt-cake) per ton.	0	17	6
,, ,, (Glauber's Salts) per ton	1	5	0
,, Sulphide per ton	8	10	0
,, Sulphite per ton	5	15	0
Strontium Hydrate, 100% per ton	8	10	0
Sulphocyanide Ammonium, 95 % per lb.	0	0	7½
,, Barium, 95 % per ton	0	0	5
,, Potassium per ton	0	0	7½
Sulphur (Flowers) per ton.	8	0	
,, (Roll Brimstone) per ton	6	10	0
,, Brimstone: Best Quality per ton	4	2	6
Superphosphate of Lime (26%) per ton	2	7	6
Tallow per ton	28	0	0
Tin (English Ingots) per ton	72	10	0
Tin Crystals per lb.	0	0	6¾
Zinc (Spelter) per ton	15	15	0
,, Chloride (solution, 96° Tw.) per ton	5	15	0

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E ADVERTISEMENT.

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CURRENT TOPICS.

THE DANGERS OF THE CHEMICAL TRADE.

NOW that the Government has held an inquiry into the *status* of labour in this trade, it will appear to many minds that the matter will be, and may be, disposed of without further ado. But there is yet another thing which has to be done in the interest of chemical manufacturers, and that is to convey an accurate idea of the risks besetting those engaged in chemical industrial operations to the public mind. Those who find need of facts wherewith to controvert erroneous and extravagant statements will do well to consult a paper read a short time since before the members of the Sanitary Institute, by Watson Smith, F.I.C., on the "Manufacture of Acids and Alkalies."

When so much misconception has been created by the startling allegations, made prior to the recent Departmental Committee's Inquiry, it is highly important that a simple and rational account of the manufacture of vitriol, bleaching powder, and nitric acid, &c., should be forthcoming. The paper in question not only affords this, but goes on to point out the incidental sources of danger which arise owing to the formation of by-products, as well as the dangerous properties of the materials manufactured.

It must not be thought that the paper is a one-sided defence of the chemical industry. As a matter of fact, the subject has been fairly and competently voiced. In many cases the *data* of Hirt, who is often looked to as an authority in this country, are shown to be unreliable, in that he sets the quantities of ammonia and hydrochloric acid, which are permissible in an atmosphere which is to be breathed by human beings, at much too high a figure. Further, where other investigators have attributed accidents to certain causes, the author shows that in so doing the real danger has been overlooked, and he indicates the actual source. In connection with the manufacture of bleaching powder, especially, the information is likely to be found interesting, on account of the unpleasant reputation of this article. An instance given of a man following the occupation of "packer" for 34 years would seem to show that there is a great deal of exaggeration in the commonly received notions of its deadly character.

This paper, moreover, goes yet a step further. After enumerating the dangers, and giving a useful classification of the various gases which militate against the health of operatives, the author does not leave the subject here, but presents as many appliances and remedies as are at present available, special mention being made of respirators, masks, spectacles, and preparations for applying to burns and scalds, other than the time-honoured mixture of oil and lime water.

All this is of much importance to chemical manufacturers, and they will do well to give a little attention to the information which is at their disposal. They will find it sound, being offered in conjunction with a knowledge of the difficulties of the trade, and will save themselves trouble in the long run,

as a little effort in this direction is capable of effecting much good, and avoiding many irritating though trivial mishaps.

THE CULTIVATION OF SUGAR-BEET IN ENGLAND.

With the rotation of the seasons we are once more confronted with the results which have been obtained in connection with the cultivation of beetroot in Great Britain. Though the facts that the figures of the annual returns reveal are as satisfactory as ever, we are reminded that the agricultural outlook is by no means as favourable. We do not intend to enter here into the ways and means of improving matters for the agriculturist, but these experiments open up another issue. The conditions of working in the last five years during which these experiments have been prosecuted, have been sufficiently variable to subject the trials to adverse as well as favourable circumstances. The last year is a case in point, as the Spring was exceptionally dry. The results nevertheless are good. Again, the growing of sugar beets is not confined to any particular kind of soil, and many are the manurial mixtures which have been successfully applied. The best crop has been obtained on sandy loam, manured with eight loads of farmyard manure, the previous crop having been wheat. The next best crop was yielded by a light warp soil, dressed with 3 cwt. of sodium nitrate. The average of 22 trials made in England shows a yield of close on 19·5 tons of roots per acre, which took 174 days vegetating, and contained 15·16 parts of sugar in a hundred parts of juice. Such an average is undoubtedly good considering the unseasonable weather encountered.

And now after having briefly pointed out the fact that year in and year out, come good or bad, the cultivation of sugar beets can be conducted as successfully in this country as on the Continent, there still remains the difficulty, that as yet there are no means of turning the crop to any practical account, as a works for the extraction of beet sugar does not exist. The enhanced value of land devoted to sugar beet cultivation is clearly shown by the fact that on the Continent sugar lands are now worth from £80. to £160. per acre. It seems a pity that nothing is likely to be done to give a fair trial to the contention that beet sugar can be as successfully extracted on a commercial scale in England as on the Continent, when the good which owners would assuredly do to their property, and the risks of extracting at a profit can be easily, not to say safely, calculated from the information afforded by investigations of five years' duration. Yet this is the position in which the present year finds us, while the crops have to be employed in the feeding of live stock. Naturally, landed proprietors are looked to for assistance in raising the capital for a trial; but they do not seem disposed to do anything in the way of co-operation—they seldom are. The venture would certainly be safer than many another tempting opportunity of coining money in exploiting some land, somewhere, for some mineral, generally yet to be found, but at present the venture goes a-begging.

THE STORAGE OF PETROLEUM NAPHTHA.

An important case to rubber manufacturers was heard in Birmingham Police-court, last week, as to the legality of storing rubber solution containing 84·8 per cent. of naphtha. This solvent gives off an inflammable vapour considerably under the Government standard of 73°F, as fixed in the Petroleum Act. Although on the face of things it appears ridiculous that a solution of rubber containing such a large percentage of highly-inflammable solvent should be capable of being stored independently of the regulations which apply to the storage of petroleum; yet the point is whether the Act of 1874 actually did have in mind such prepara The magistrates evidently took this view, judging from action and the intimation that in future they should i heavier fines. By precedent the mixture would appe come under the Petroleum Act, but we think there a who use, store, or make the preparation, that are acqua with their exact legal position in this matter, though i well, that they should be.

SEPARATION OF THE METALS IN ALKA SOLUTION BY HYDROGEN PEROXIDE.

[By Paul Jannasch]

In continuation of his previous work the author has endeavou effect the quantitative determination of copper by me hydrogen peroxide, but without success. His investigations, ho led him to observe a reaction by means of which the simult oxidising and reducing properties of a compound which readily oxygen, and the formation of all the three different stages of oxi of copper can be demonstrated. For this purpose caustic s added in excess to an ordinary solution of a copper salt, the h being then redissolved in tartaric acid. If hydrogen peroxide b added a copious precipitate of hydrated copper peroxide is pro which on rapidly warming again disappears, the liquid becoming green and then blue, a precipitate of cuprous oxide being formed. The observations made with a 10 % copper sulphate so with 10 % tartaric acid and 20 % soda under different conditio summarised by the author as follows :—

1. 2 cc. copper solution, 3 cc. tartaric acid, 4 cc. caustic soda 15 cc. of 2 % hydrogen peroxide after a rapid and momentary l give on cooling a separation of bright red granular cuprous oxide

2. 2 cc. copper sulphate, 1 cc. tartaric acid, 1 cc. soda, and hydrogen peroxide after boiling until the blue colour is produced a brownish red flocculent precipitate, the liquid being decolouriz

3. 2 cc. copper sulphate, 1 cc. tartaric acid, 0·5 cc. soda, and 5 hydrogen peroxide give a flocculent light green precipitate which altered by boiling, but on standing for some time forms a heavy y deposit (hydrated cuprous oxide) above which is a layer of ligh flocculent matter.

4. 2 cc. copper solution, 1 cc. tartaric acid, 0·5 cc. soda, and 1 hydrogen peroxide give a brilliant light blue precipitate which i altered by boiling.

The author has also worked, in conjunction with J. Lesinsky, c separation of lead from copper. 0·5 gram. lead nitrate and 0·3 metallic copper were dissolved in 50 cc. water and 10 cc. strong acid and then treated in the cold with a mixture of 60 cc. of at 2 % hydrogen peroxide and 20 cc. of concentrated ammonia. T precipitate obtained, 5 cc. of a concentrated solution of amm carbonate are added and the whole washed on the filter at first w cold mixture of 7 vol. of hydrogen peroxide, 1 vol. strong am and 6-8 vol. of water four or five times, until the blue colour c filter has been removed; it is then washed with hot dilute am about 1 to 8 of water, and finally with hot water unti filtrate is free from copper. The washed lead precipitate is drie cinerated with the paper, the resulting oxide dissolved in nitric evaporated on the water bath, and ignited in a crucible until of co weight.

The solution containing the copper is next evaporated to re ammonia, diluted with water and treated with 10 cc. of concen sulphuric acid It is then again evaporated until all the nitric acid ha removed, about 100 cc. of water added, any silica which may se filtered off, the filtrate diluted with 350-400 cc. of water, heat boiling and sulphuretted hydrogen passed into the hot liquid. complete precipitation, the precipitate is washed on the filter wit sulphuretted hydrogen water, incinerated with the paper and ignited in a stream of air which has passed through a saturated so of ammonium carbonate, so that any copper sulphate which may been produced is decomposed, ammonium sulphate being fo while the water vapour present effects the oxidation of any m copper formed during the incineration. It is more convenie moisten the mass obtained by incineration with ammonium carb and then to ignite until constant in weight.

In the precipitation of the lead it is advisable to employ a con able excess of hydrogen peroxide, by means of which a precipit white, pearly plates is obtained, insoluble both in water and amm The nature of the precipitate is being further investigated.

The separation of lead from zinc and nickel is carried out b author in a similar manner.

Legal Intelligence.

HIGH COURT OF JUSTICE.

CHANCERY DIVISION.

(Before Mr. Justice Kekewich.)

T-WESTERN RAILWAY COMPANY *v.* THE CEFN CRIBBWR BRICK COMPANY.

an action by the Great-Western Railway Company claim-nction to restrain the defendants, who are lessees of certain Glamorganshire under the plaintiffs' line of railway, from eir mines in such a way as to injure the railway by taking ecessary support. By an Act of 1825, 6 George IV., c. 104, , Llynvi, and Porthcawl Railway Company were incorpora-power to make and maintain a "railway or tramroad"; r upon and take lands for the purpose; but by section 25 ere to be deemed to be excepted out of any conveyance, be worked by the owners, though in such a manner as not e company's works. The provisions of the Act appeared to e a tramroad for running trams drawn either by horse power d engine. In 1830 certain lands in the parish of Tythegamorganshire, were conveyed to that company for the pur-eir Act. Subsequently that company was amalgamated with Valley Railway Company By the Llynvi Valley Railway the line of the Llynvi Valley Company was extended, and Clauses Act, 1845, and the Railways Clauses Act, 1845, porated with the Act. By the Llynvi Valley Railway Act, being only a horse tramroad then in existence, provisions for repealing the previous Acts and altering the line so as to in curves and inclines for locomotive engines. This Act, it gave the company a "new start" as a railway company t was thereby provided that everything done before the pass-Act under the repealed Acts should be as valid as if they epealed, and that the Act should be subject and without pre-verything so done, and to all rights consequent on everything The Llynvi Valley Company afterwards, in 1866, became i and Ogmore Railway Company; in 1863 a broad gauge e was laid down, and by an Act of 1883 that company was ed with the plaintiffs, the Great Western Railway Company, and Ogmore line now forming part of the Great Western he defendants were the lessees of the mines of coal and rals under the land comprised in the conveyance of 1830, and their mines had caused subsidences on and near the railway, nsisted on their right to continue working unless the mines at by the railway company under the provisions of the Rail-es Act, 1845. The plaintiffs, however, contended that their bjacent and adjacent support were preserved by the Act of , on the other hand, the defendants contended that by the 5 the plaintiffs took up an entirely new position, that of a mpany proper, and were therefore subject to the provisions way Clauses Act, under which, if they required subjacent nt support, they must purchase the mines under the surface l in them.

ice Kekewich, in the course of an elaborate judgment, said were agreed that the plaintiffs' railway was at a desperate t subsidences had occurred which created so much danger to hat extraordinary care had to be used, and that further sub-ere to be apprehended. It was said by the defendants that itself was the *causa causans*, the *causa sine quâ non*. His id not think it necessary to consider the question whether the ad contributed in any way to their own injury. Adopting xpressed by Lord Cranworth in "Caledonian Railway Com-rott" (2 Macq., 462), he found, on the evidence, that the s caused by the working of the mines had been very little by the working of the railway. Were the defendants for those subsidences? His Lordship concluded from the hat, until they opened the headings which had been the support which they gave to the soil above nd them was, if not mathematically equal to the the soil in its original state, practically sufficient for all pur-ie defendants tapped those headings for their own purposes it about subsidence. There were subsidences 120ft. or 130ft. ilway, where it was not suggested that the traffic could pro-aterial effect. On that short ground his Lordship was of it part of the injury which had been caused, and part of the h was apprehended, was to a great extent due and would be working of these mines by the defendants. Then, were sible in law to the plaintiffs? The plaintiffs' predecessors land in 1830 under the powers of the Act of 1825, by which minerals were excepted from the conveyance, and the defen-ecessors, to whom the mines were reserved, were at liberty to so long as they did not injure the company's works. Did that refer to some other railway than that mentioned in the Act? The company's common law rights to support by the adjacent land was not touched upon or interfered with. It was said that the plaintiffs had entirely changed the nature of their railway; that what was a horse tramroad was now a part of the large system of the Great-Western Railway, worked by steam engines of modern construction hauling trucks and carriages of very great weight, and that consequently the Act of 1825 was not now applicable to such a state of things. Of course such a change was not contemplated in 1825 nor for many years later; but the defendants' predecessors had made their bargain, though if they had anticipated the use of steam power instead of horse power and of carriages instead of trucks they might have asked higher terms. They had made their bargain, and his Lordship saw no reason in saying that, because the railway was used in a somewhat different manner, therefore the right to support was gone. As to the question whether the plaintiffs were now bound by the Railways Clauses Consolidation Act, 1845, they were certainly governed by that Act from the year 1855, when their Act of that year was passed, so far as the Act of 1845 was applicable to any particular case. But his Lordship was asked to hold that the Act of 1855 had the effect of altering the express contract entered into in 1825 between the railway company and the vendors without the matter being gone into before Parliament in 1855, or any mention of it being made, either expressly or by implication, in the Act of that year. His Lordship was of opinion that it would be construing the Act of 1855 on an entirely wrong principle to say that a contract entered into in 1825 and actually concluded in 1830 between the then company and the vendors was to be treated as altered in 1855 without any words to show that such an alteration was in contemplation. What was done under the Act of 1825 was saved by the repealing Act of 1855. His Lordship then, having dealt with other argumentss on the part of the defendants, said that in his view all their contentions failed, and that the plaintiffs were entitled to the relief they asked. Accordingly there must be an injunction as claimed, and an inquiry as to damages.

QUEEN'S BENCH DIVISION.

(Before Mr. Justice Mathew and Mr. Justice Cave.)

JONES *v.* JONES.

This was an adulteration case arising out of the sale of a packet of cocoa, on one of the ends of which were printed these words, "This contains cocoa combined with other ingredients—pure and wholesome —and guaranteed in accordance with the Act of Parliament." The composition, in fact, included starch and sugar. The magistrates convicted, and on appeal to the sessions there were only two justices present, and they were divided in opinion, so the conviction stood, and the defendant now appealed on a case stated. There was no evidence or finding that the ingredients mentioned were put in fraudulently to increase the bulk.

Mr. Grain, for the appellant, argued that there was a defence under the 8th section of the Adulteration Act, and cited "Jones v. Davis" (57 *J.P.*)

Mr. Stephen, in support of the conviction, urged that there was no "label" within the enactment.

The Court, however, thought that there was, and as there was no evidence that the mixture was fraudulent or to increase the bulk, held that the seller ought not to have been convicted, and allowed the appeal.

THE SALE OF SHEEP DIP.

A CASE of considerable interest was investigated by the Chester City magistrates recently, when William Pearson, druggist, of the firm of Pearson, Barton, and Co., Chester, appeared in answer to three summonses charging him with selling arsenic without entering the same in a poisons' book, with selling arsenic to a person not of full age, and with selling it to a person unknown to him, and without a witness. The evidence showed that the police authorities sent a boy to buy a packet of sheep-dip on February 1st. The lad obtained it without being questioned at all by defendant. It was analysed by Mr. Lowe, the city analyst, and found to contain 4oz. of arsenic, sufficient it was stated, to poison 900 men. The sheep-dip was of the same colour as mustard, and the fact that it was poison was only indicated by small letters in the printed directions. Mr. Brassey, who appeared for the defence, submitted that the offence was caused in ignorance, because the dip had been extensively sold by druggists for 15 or 16 years. The defendant was fined 40s. and costs in respect of the first offence, and was ordered to pay the costs in the other cases.

A CLEANING AND DISINFECTING PASTE.—Such a paste is prepared by mixing deodorised paraffin oil, turps, soft soap, a little common salt and a quantity of onion juice. The paraffin oil is further improved by the addition of a small quantity of camphor. The preparation has been patented.

THE ANALYSIS OF FOUNDRY COKE.

By C. K. Pittman.

THE analysis of coke is too often deceptive because the sample is not properly selected and is not an average of the fuel. Therefore, it may show the coke to be poorer than it is or better than it is. Probably the latter is more often the case. The method of the analysis may be wholly correct, but the theoretical conditions under which it is made may not show what it can do in the foundry, unless we know enough to read between the lines. The analysis that gives the total amount of ash in a coke is not always sufficient. The constituents of the ash are as often as necessary, since they may be of such character as to produce a change in the molten iron, and may have more or less bearing upon the flux that should be used. There is, from time to time, some variation in the same coke, that results from the varying conditions attending the burning, and some variation in the coal. What all these small variations are that produce this effect we do not fully know. It results from this that more than a single analysis is desirable.

The cokes that come to the market of the west, U.S.A, generally show a wide diversity in the analysis. This may be the case, and yet all the cokes may be good in their proper places. They contain from 87 to 92 per cent. of fixed carbon, from 6 to 12 per cent. of ash, and sometimes as high as 17 per cent., and from 0·6 to 1·25 per cent. of sulphur.

For foundry use, the higher the percentage the better, provided it does not contain too much sulphur. The amount of sulphur that can be safely used seems to be uncertain, or, rather, opinions and results vary. The general belief seems to be that 1 per cent. is the maximum, but I have heard men of much experience say that 1·25 per cent. is the limit. The cokes most generally used contain from ·75 to 1 per cent.

The proper amount of ash is an unsettled question, and the belief seems to be gaining that while too much ash clogs the work it is as bad to have too low an amount as too great. The constituents of the ash are undoubtedly a factor in the question. With our limited knowledge we may say that probably there should be a suitable balance of proportion of all constituents of coke, and we know that the character of the iron and the flux are factors in the problem. We do not understand very fully the cellular structure of the coke. Upon it, however, depends the strength and also the perfectness of combustion. Whether it can be varied, and what amount is best, is, I think, an unsolved question. It has been claimed that the structure of the coke can be varied at pleasure. It certainly is modified by the preparation of the coal—the more finely divided the coal, the more dense the coke. It is also influenced by the amount of volatile matter in the coal, or by the amount of free hydrogen.

PROSECUTION FOR RIVER POLLUTION.

THE Kersley Local Board were proceeded against last week at the Bolton County Police-court, before County Councillor J. P. Haslam, and Alderman B. A. Dobson by Mr. Wilson, on behalf of the Mersey and Irwell Joint Committee, who charged the Board with—first, permitting sewage to flow into a small tributary of the river Croal, also into the Unity Brook and Stoneclough Brook; and, secondly, with causing the same. Mr. Wilson, in opening the case, said the summonses were taken out under part 2 of section 3 of the Mersey and Irwell Joint Committee's Act, 1892. On July 3rd, 1891, after a few preliminary meetings, the Joint Committee instructed their clerk to write to the various authorities in their district asking what steps they had taken or proposed to take for treating sewage. Accordingly Mr. Hulton wrote to the Kersley Local Board, and he received a reply that the Board had not finally adopted any sewage scheme, but land had been provided and instructions were being given for the preparation of the plans without delay. That was in December, 1891. The matter was then adjourned, and ultimately, after the Committee obtained an Act of Parliament, their clerk wrote to the Kersley Local Board on August 3, 1892, stating that proceedings would be instituted against them if the works were not completed in two months' time, unless extra time were asked for at the expiration of such period. In answer the Local Board wrote on 25th August, 1892, to say that the contract for the sewage works was let, and that the contractor was proceeding as quickly as possible with the work. The Committee thereupon adjourned the consideration of any proceedings against the Local Board for three months, being of opinion that the works mentioned in the letter were complete works, and from time to time, owing to the reports of their Inspector, Mr. Tatton, they granted further extensions. On the 10th August, 1893, after a period of twelve months, Mr. Gillespie, sub-inspector, who laid information of these cases, reported that the tanks were finished, whilst all the iron-work, valves, &c., were in position, and Mr. Tatton accordingly reported that to the Committee; but in July, 1893, it came to Mr. Tatton's knowledge that the works were only sewage tanks and one con sewer, the Local Board for some reason not having contemplate cepting sewers or even applied to the Local Government Bo powers to carry out the same. He (Mr. Wilson) now unde however, that the Local Board had applied to the Local Gove Board for borrowing powers The Act was absolutely prohibit that he asked the Bench, seeing that the offences were admi convict the defendants and to award the Committee costs in the —Mr. Holden stated that the Board constructed the tanks whic now in use and dealing systematically and effectually with sewag a large and populous part of their district, and were actively pre to systematically and effectually deal with the remainder o district, a matter which meant money. They were at present i munication with Local Government Board, seeking to raise £ for sewage purposes, and he had a letter from them dated 8th Fe It stated that with regard to borrowing the money, a local would have to be held, and it would take place as soon as the engagements of the Inspectors were complete. The magistrates i a fine of £1., court fees, and £2. 10s. towards the Committee's the prosecution in each case, and an order for completion was but suspended for six months.

THE NORWEGIAN WOOD-PULP INDUST

THE year 1893 has been a very satisfactory one for the Nor wood-pulp industry, and prices have averaged about 4 kr. 4s. 6d.) per ton higher for wet and about 8 kr. (about 9s.) higher for dry wood pulp than during the previous year. Buyers early for forward deliveries, and at the beginning of the yea were already sold for 1893 about 130,000 tons, calculated we the demand increased, the Wood-Pulp Union realised th reduction in output of 33⅓ per cent. was excessive, and at a m in May it was decided that the reduction should not exceed 23 cent., but still prices continued to rise. Towards the end of th smaller available lots were even sold at respectively 55 kr. (£ and 110 kr. (£6. 2s.). For the current year by far the g proportion of the production is sold, and at good prices. The im conditions for the wood-pulp industry have brought about consi extensions and erection of new wood-pulp manufactories b Norway and Sweden, and several more new installations of th appear to be on the *tapis*. Should these all be realised, the pulp industry is likely to again suffer considerably. The hom sumption has remained about stationary; the English consumpt increased, and so has that of France. Germany has importe 10,000 tons more of Scandinavian wood-pulp during 189 during the previous year, but this has been caused by the unusu of water in Germany during the past year. There are now fif wood-pulp manufactories in activity in Norway; of these one i nected with a barrel factory, three with card-board manufactori ten with paper mills. The aggregate exports from Norway 1893, including such Swedish wood-pulp as may have been s from Norwegian ports, amount to about—

230,000	tons (calculated wet) against								
215,000	,,	..	..	..	..	..	..	in	18
230,000	,,	..	..	..	..	..	..	,,	18
207,000	,,	..	..	..	..	..	..	,,	18
190,000	,,	..	..	..	..	..	..	,,	18
175,000	,,	..	..	..	..	..	..	,,	18

Our previons remarks and figures have applied to mechanical pulp. With regard to chemical wood-pulp, the increased de created during 1892 through the restraint put on the rag trade cholera, has continued, and also for this industry 1893 has very satisfactory year. The Cellulose Union's quotations h 1893 been—

200 kr. to 210 kr. (about £11. 2s. to £11. 13s.) for prime d sulphite.
185 ,, 195 ,, (about £10. 5s. 6d. to £10. 17s.) for seco dry sulphite.
180 ,, 190 ,, (about £10. to £10. 11s.) for prime d sulphate.
170 ,, 180 ,, (about £9. 9s. to £10.) for second d sulphate.

These prices are now barely obtainable, and the many new f already in hand or under contemplation, both in Norway and S and in America, do not promise well for the future. Prices are to fall, and the prices of the raw materials will probably rise. A ing to *Engineering*, there are now ten sulphite cellulose an sulphate cellulose manufactories going; three of the former a of the latter are connected with paper mills. The aggregate exp cellulose from Norway during 1893 are estimated at 28,000 t and 13,000 tons wet, against 22,000 tons dry and 9,000 to during the previous year.

Reports of Companies.

E NORTH BRITISH WATER-GAS SYNDICATE, LTD.

petition for the winding-up of the North British Water-Gas ate, Limited, came before Mr. Justice Vaughan Williams, in London last week as the judge under the Companies Winding-

Macaskie, in support of the petition, said the petitioners—two olders holding 12,000 shares—were asking that it might be up compulsorily. The petition proceeded on the grounds that ostratum of the Company had gone; that it could not carry on siness; that it was a bubble and a sham; and that it was already cess of voluntary liquidation. The decision very largely turned he question whether water gas could possibly be made a com-l success, or whether, as alleged in the petition, it was a sham. nce had been filed on both sides, and the petition had often stood o collect fresh evidence. Two days ago the petitioners received its from the Chairman of the Company and another director in tion to the petition and to an affidavit dealing with the scientific of the question. The learned counsel said he thought these men who had made the affidavits would have to be cross-ned in open court. The question at issue was a large one. This British Syndicate was formed in May, 1889, with a capital of 000. It was known as the subsidiary Company, being the child mpany called the British Water-Gas Syndicate, whose business create infant companies round it. The parent company granted s under its patent for water gas to be manufactured in Notting-nd Derby to a Nottingham and Derby Company, in Yorkshire to shire Company, and in Scotland to the Company which he was sking the Court to wind up. The public subscribed the neces-apital of this Company. There were 40,000 shares of £5 each in t of which £3 10s. had been called up, and £3 had been paid. pect of the shares taken by the public, there had been called up than £140,000., and of this £120,000. had been paid. The e of the share capital went to the parent Company on account of se money, and the parent Company now held 20,000 shares in mpany of £5. each credited as fully paid up, being a total holding 0,000. The cash which the Company received from the public w, however, very largely disappeared. The parent Company ded in getting on account of purchase money £145,700 There ed in hand at the bank of the North British Syndicate about 00, and the call which had been lately made of 10s. per share, if y the shareholders, would realise another £20,000. During the ars this Company had been in existence, its business being to licences to persons in Scotland for the manufacture of water-gas, declared no dividends, and with a trifling exception had carried business.

Justice Williams: If it carried on no business it is quite right declare any dividends.

Macaskie agreed. The Syndicate had earned no royalties, and quite impossible that this Syndicate could carry on any business ver. Voluntary winding-up was now going on under a special ion, but it was not an ordinary winding-up. It was a winding-the purpose of transferring the undertaking and assets of the any to an Amalgamated Water-Gas Company, which was to com-he Yorkshire Water-Gas Company and another Company. The gham and Derby Water-Gas Company had some litigation with rent Company and got out of its contract by paying £15,000., so Nottingham and Derby Company would not come under the amation scheme. The petitioners having 12,000 shares in the British did not wish for the amalgamation, their view was shared shareholders, and they asked the Court to order a compulsory g-up.

Everett, Q.C, on behalf of the Company, resisted the petition. id the issue raised here had been decided by two judges in ery.

Macaskie emphatically denied that the Chancery actions had d this matter. One of the licentiate shareholders took action in me of this Company against the parent Company of Leeds, but ion was never tried. It came to an end because the shareholder o authority to use the name of the Company. The learned l proceeded to point out to the Court that certain statements in ospectus of this Company were fraudulent and untrue. The ctus falsely said that water-gas had been a commercial success. said "the use of water-gas at the Leeds Forge Company has d a saving in the first year of over £10,000." Mr. Sampson e chairman of the Leeds Forge Company, was really the pro-of the original syndicate, and of all these water-gas companies. ether as the result of using water-gas or not, the Leeds Forge ny, instead of making more money than rival manufacturers, had lown, and their £5. shares had fallen to 15s. Neither Mr. on Fox nor anyone else connected with the Leeds Forge Com-pany had ventured to come forward and give evidence in this case. Amongst other statements the prospectus said, "Water-gas has already been adopted in many large manufacturing towns of Germany with eminently satisfactory results." On the contrary, so far from its being made at something like 4d. per 1,000 cubic feet, it was found in practice by the witnesses of the parent Company to cost 2s. per 1,000 feet.

Mr. Justice Williams: You are entitled to have this Company wound up if you can show it is a bogus business or bubble concern. But you don't prove that by showing a number of untrue representations were made about the excellency of water-gas. If you can show that water-gas is a commercial and total failure, and that there is no ground for continuing this venture, that is the only part of the evidence I shall attend to.

Mr. Macaskie: I know mere fraud is not enough, but the evidence on the question of fraud is almost the same in this case as the evidence as to whether or not the whole thing is a bubble and a sham.

The Judge intimated his readiness to hear evidence.

Mr. Everett said the chairman of this Syndicate was an old gentleman of 80 years of age, residing in Scotland, and could not give evidence. Mr. Scruddock, the chemist who had certified as to water-gas, might be called.

Mr. Macaskie said he would let off the chairman of the Company on account of his extreme age, but he should like to cross-examine his co-director who had made the last affidavit.

Mr. Everett argued that cross-examination must be utterly and absolutely irrelevant, having regard to the facts of the case. The majority of the shareholders in this Company wanted the amalgamation, but the petitioners were dissentients, who wished to set aside the resolutions carried at the meetings in June and July, sanctioning the sale to the amalgamated Company, and which the Court had held to be a perfectly valid transaction. The amalgamation would be immensely beneficial to the shareholders of the North British Company. The parent Company brought in all the patents and improvements. The parent Company had £100,000. worth of shares in the North British, and a debt of £49,000. The shareholders of the Scottish Company get new fully paid shares in the amalgamated Company.

Mr. Justice Williams: But what does the parent Company get in return?

Mr. Everett: Simply shares of this Company.

Mr. Justice Williams: But what substantial gain is that to the parent Company?

Mr. Everett: Nothing, except all working together in unity.

Mr. Justice Williams: I always regard any gift or any agreement which has proceeded out of general love for one's neighbours with the deepest suspicion. (Laughter.) In commerce, people do not give up their rights unless they get something in return, and when I hear a noble company has come forward and given up something I always want to know what it has got in return.

The petition was adjourned, the Judge to fix a time for cross-examination of the witnesses if necessary.

BRUNNER, MOND, & CO., LIMITED.

The twenty-sixth half-yearly meeting of the shareholders of Brunner, Mond, and Co., Limited, was held on Friday last week at the Law Rooms, Cook-street, Liverpool. In the absence, through indisposition at Cannes, of Mr. J. T. Brunner, M.P., chairman of the company, the chair was occupied by Mr. Harry Coghill, and there was a crowded attendance of shareholders.

The balance sheet and profit and loss account showed a balance to the credit of profit and loss account on the working of the half-year ended on the 31st December, 1893, of £150,550. 11s. 8d., which, with the amount of £89,400. 12s. 11d. brought forward from the previous half-year, made a total of £239,951. 4s. 7d. The directors proposed to deal with the above balance as follows:—Dividend on the preference capital, at 7 per cent per annum, £15,290. 12s. 6d.; dividend on the ordinary capital, at 30 per cent per annum, £119,731. 2s. 6d.; amount to be written off patents account, £2,500.; amount to be placed to suspense account, £20,000.; and balance to be carried forward, £82,429. 9s. 7d.; total, £239,951. 4s. 7d. The directors proposed to place to the suspense account the above sum of £20,000 in continuation of a policy which had been found to be of great benefit to the company.

The Chairman, in moving the adoption of the report and accounts and the declaration of dividend as mentioned therein, said that he was sorry that the results of the six months had not been so satisfactory as they might desire, owing to the sixteen weeks' coal strike and the depression of business in America. They had had a difficult half-year, and the present outlook was not very brilliant.

Mr Henry Brunner seconded the motion.

Mr. Watson, a shareholder, protested against the boldness of both the report and the chairman's remarks, and thought they were entitled to fuller information as to the causes of the falling-off in their returns.

He also called attention to the fact that last year the directors had called up £165,000., of which they had accounted in the report for only £74,000, and that they further proposed this year to call up £67,000., and had decreased the investments by £25 000. He would like some information respecting the nature of the investments, and considered there was no reason why the shareholders should be kept absolutely in the dark.

Dr. Hewitt, a director, replied that the balance sheet was made up to the 31st December, 1893, and the capital called up on the 1st January, 1894, could not have been included in it. With respect to the so-called calling up of capital, what Mr. Watson said was quite wrong. They had paid out of the profits over to the shareholders a sum of money which was represented of course by the £166,000, and that was necessary for the purpose of the business. It was really a distribution of profits, and not calling up capital. (Hear, hear.) In two and a half years the capital of the company had been returned to the shareholders, and that was better than a boasting report with very little money to be distributed. As regards the report and balance sheet they were in exactly the same form as they had been since the formation of the company, and the figures spoke for themselves. The coal strike had cost them a lot of money, and this, with the diminished sales, showed a loss of profit of £105,000 as compared with the previous half-year. Trade all over the world had been affected, and in America and Australia there had been such a disturbance as they had not seen for twenty years.

Mr. Watson repeated his request that more information should in future be put in the report. He had heard it remarked that the company had no investment at all.

The Chairman : Whoever told you that knew nothing about it. We have Consols, preferred shares, and other equally good securities.

Mr Watson asked why should the reserve fund be decreased when they were increasing the capital.

Dr. Hewitt said they had the dividend to pay, and they had sold Consols to furnish them with the cash.

The motion was then passed unanimously.

On the motion of Mr. George Jones, seconded by Mr. John Harling, £500. was voted to each director other than the managing directors for their services during the past half-year.

Messrs. Harry Coghill, David Basil Hewitt, and Gustav Jarmay were unanimously re-elected on the board of directors ; and it was resolved to elect Mr. John Fowler Leece Brunner (eldest son of the chairman) as director at a remuneration of £600 per annum.

Messrs. T. W. Read and Co. were re-elected auditors at £500 a year.

A vote of thanks to the chairman closed the meeting.

THE CARBORUNDUM COMPANY.

The Carborundum Company of Monongahela City, Pa., has decided to increase its capital stock to $200,000. The increase will be used for the purchase of the property now occupied by the company and at present owned by the Monongahela Electric Light Company, and for the extension of the business. An order has been received from Messrs. Claudius Ash and Sons, of London, for $10,000 worth of dental carborundum goods. This order means more than the dollars represented, as the London firm is the largest manufacturer of the London corundum dental goods in the world. Hence the indications are that corundum, the greatest competitor of carborundum, will disappear from the dental trade. The company has about perfected the manufacture of wheels, designed to replace the iron discs and sand and the Scotch stones, now used in glass cutting.

DIVIDENDS.

THE UNITED ALKALI COMPANY, LIMITED.

The directors of this company recommend a dividend at the rate of 4 per cent. per annum, making a total of 5 per cent. for the past year. The reserve is to be increased by £40,000.

BELL'S ASBESTOS COMPANY, LIMITED.

The directors of this company have resolved to recommend a dividend or 5s per share, free of income-tax, being at the rate of 5 per cent per annum. The amount to be carried forward is £1,731. 5s. 5d.

Fire at a Chemical Works.—On Friday, last week, a fire broke out in one of the rooms of the ammonia distillery of Messrs. Brunner, Mond, and Co., situate in Litherland-road, Bootle. The local fire brigade were communicated with, and Superintendent Roberts and a staff of men, with the steamer Ibbs, turned out. The fire had gained considerable headway, but the prompt services of the brigade overcame it in less than two hours The Salvage Corps were in attendance.

CONDENSATION OF MOISTURE ON IRON ROOFING.

[By Clayton Beadle.]

When corrugated iron roofing is used in a works it is ge found necessary to have a double roof, with a fair amoun space between, in order that the building may be warmer in wint cooler in summer. There is a further serious objection to a sing which is particularly noticeable where the air is inclined to be and that is the continual dripping of water condensed on th which at some parts of the day frequently falls like a shower o This is the source of frequent annoyance over the wet end of a machine. The moisture evaporated from the surface of the cylinders is conveyed by the air to the top of the room, where it in contact with the cold iron roof. Drips are condensed and fal the web of paper, often doing a considereble amount of damage. is often obviated by placing iron steam pipes along the inside roofing, which warm up the roof and air in immediate vicinity roof, causing it to escape uncondensed A more wasteful v obviating this inconvenience can hardly be imagined. The con tion of moisture on the underside of iron roofs is objectionable in ways. If this condensation takes place in a boiler-house, where and sulphurous acid are frequently found together in the atmosph very rapid corrosion of the iron often takes place, and it will be that the roof wears away almost entirely from the under surface. drips from an iron roof often contain iron and lead salts. F that the fall of drops from an iron roof in cold weather was ver siderable, I collected the water for several weeks to determine th and found that in one week nearly ¾ inches fell. The fal greatest in frosty weather, at about 11 o'clock in the morning, d the sun warming the iron and melting the frost on the under su The observations of fall of moisture were made in a room into no steam was allowed to escape. It is this condensation of mo which does so much harm to the corrugated iron roof, necessi frequent painting.

THE GAS SUPPLY OF LONDON AND LEED

LONDON.

The quality of the gas supplied to the City of Londo the week ending February 17th, 1894, was good. Acc to the report of Mr. W. J. Dibdin, chemist and su tendent gas examiner to the London County Council, the tests ma the various testing stations showed no deficiencies in illumi power. The following figures have been prepared from report, and show the average composition of the gas calculate the mean test :—

Company.	No. of districts tested.	Illuminating power (in stand. sperm candles). Mean average.	Sulphur. Grains in 100 cb. ft. Mean average	Ammonia. Grains in 100 cb. ft. Mean average.	phu hyd
Gas Light and Coke Co.	13	16·27	11·20	0·29	1
South Metropolitan Gas Co.	5	16·46	10·82	0·26	1
Commercial Gas Co. .	2	16·25	8·25	0·50	1

The standard gas supplied by these companies should ha illuminating power of 16 sperm candles, and contain not more th grains of sulphur and 4 grains of ammonia per 100 cb. ft. of gas average of three days withs a pressure of one inch between sunse midnight, and six-tenths of an inch between midnight and sunset.

LEEDS.

According to the report of Mr. T. Fairley, Esq., F.I.C., gas exa for Leeds, the total proportion of sulphur contained in the Leed during the month ended February 8th, 1894, has averaged 15·84 per 100 cubic feet. The following are the results of tests made Works in grains per 100 cubic feet :—

Place.	Date when Tests were made. Jan. 1894.	Feb. 1894.	Total Sulphur.	Ammonia.	Carbonic Ac Weight.	Vo
Meadow Lane....	17, 25. 30	8.	13·40	0·74	73·35	c
New Wortley	15, 24. 31	6.	18·21	3 00	81·30	c
York Street	18, 26.	1, 7.	13·90	14·37	63·20	c
Average at Works	..	..	15·84	4·22	73·35	c
Average at East Parade	..	..	17·35	1·89	63·20	c

During the month the average illuminating power of the Leed tested at 17, East Parade, the tests being calculated to a uniform sumption of 5 feet per hour, and corrected for variations in tempe and pressure to a temperature of 60° Fahr. and a barometric pr of 30 inches, has been in standard candles (burning 120 gra sperm per hour) :—Standard argand, 24 holes, 18·4; standard bats 19·2 ; Sugg's illuminating power meter, 18·4.

THE MANUFACTURE OF ALKALINE CHROMATES.

[By Professor G. Lunge.]

USSERMANN has lately published some valuable contributions to the subject matter of the title which heads this article. These all the more valuable because they dealt with an industry, the s processes of which are being universally treated with the utmost y. The writer has also had an opportunity afforded him of going h one of the largest chromate works in America, and is, there- able to supplement the information given by Häussermann ome details of the highest moment.

manufacturing process, as described by Häussermann (*Zeit. f. Chem.* 360, 1893), takes as its raw material the chrome iron ore obtained from Turkey, or Asia Minor. The analysis of a sample an ore gave the following figures :—

O_3, 51·20; Al_2O_3, 12·80; Fe_2O_3, 1·45; FeO, 13·32; MgO, ; CaO, 3·15; SiO_2 4·95; CO_2, 0·20 per cent.

chrome iron ore is roasted with a mixture of chalk and soda, sulting mass lixiviated, and finally sulphuric acid added to obtain chromate.

ingredients are very finely ground, especially the ore, which can nveniently done by means of ball mills. The mixture is then d, oxidation taking place as follows :—

$$2FeCr_2O_4 + 4Na_2CO_3 + 7O = Fe_2O_3 + 4Na_2CrO_4 + 4CO_2$$

ctice on the large scale lime is essential to prevent the soda from , and so that the substance may be rendered porous to ensure ete oxidation. According to Atcherley the following proportions ed in England : Ore, 4·5 parts; caustic lime, 7 parts; alkaline ate, 2·25 parts. Walberg also gives the charge as: Ore, s; chalk, 3 parts; soda ash, 3 parts. Generally the mix- containing larger proportions of lime than soda, give a t containing the largest amount of soluble chromium salt, en less soda may be added than is indicated by the foregoing n, a corresponding amount of the calcium salt being formed. ley has pointed this latter fact out.

roasting operation is performed in reverberatory furnaces so ected that the air is heated to a temperature of from 300° to before coming into contact with the mixture. A furnace ing 4,500 kilograms of gobd coal will roast 2,500 kilos. of the 24 hours. The bed of the furnace is divided into three platforms n steps of about four inches, the lowest being near the bridge of the . One-third of the daily charge is thrown direct on to the highest hrough a hopper; after eight hours it is raked on to the second bed, hest one again receiving a new charge. In this way the succeeding s are worked down to the third or lowest platform, tests being o determine the finishing point of the operation. The temperature the gases leave the last bed should be about 625°C., whilst at the bridge they should reach about 1,000°C. The roasted mixture drawn shows a loss in weight of about 5% upon the charge. This to loss of carbonic acid etc. It is then transferred to iron rs provided with agitators, and heated to from 120° to 130°C ut two hours. The solution is then freed from any insoluble by filter pressing. The composition of the residue dried at gives the following analysis :—

O 0·2 per cent.; CaO 46·5; MgO 12·2; Fe_2O_3 7·5; Al_2O_3 r_2O_3 1·0; CrO_3 1·8; SiO_2 1·4; CO_2 5·2; H_2O 16·0. Insoluble

chromate liquor is concentrated until it reaches a specific of about 1·5. The concentrated liquors are then acidified by the n of strong sulphuric acid, containing 80 per cent. H_2SO_4. The added must be sufficient to neutralize the soda present, and to the neutral chromate into the bichromate, thus :—

$$2Na_2CrO_4 + H_2SO_4 = Na_2SO_4 + Na_2Cr_2O_7 + H_2O.$$

ng the course of this operation, practically all of the sulphates cipitated in the anhydrous state, whilst the bichromate remains ion. Lead lined steam jacketed pans must be employed. The of the bichromate is separated from the precipitate by first ng off, and then extracting with water. The concentration is then further, until a specific gravity of 1·7 is reached, and the hot is finally filtered, and set aside to crystallize.

uthor in describing the process as witnessed by him in America hat the same ore is used there, owing to the ore of Baltimore ifornia (the supply of which, by the way, is becoming exhausted) eficient in uniformity.

essential in the first case the ore be ground finely, and in Ger- e ball mills are still in general use, but in America they have perseded by the pneumatic pulveriser, which works as follows : re is first broken up and conducted through two small funnels ipe through which it is blown by strongly super-heated steam s. pressure into a chamber in which, from the opposite side, at ce of four inches a similar ore-charged stream enters.

These two streams rush out through two nozzles formed of wrought iron plates, standing off from the pipe and perforated with holes of about 3 m.m. diameter. The holes of these plates become enlarged so quickly that the plates have to be renewed every two hours. (This is the only damage they suffer.)

The violent concussion of the particles of ore within this chamber completely pulverizes them. The finest particles are then carried away by the steam into another chamber, where they settle and the steam escapes. The coarser particles which have fallen to the bottom of the chamber are continuously being drawn up by the currents of steam, and absolutely reduced. The product deposited in the second chamber is so fine that sieving is unnecessary. These mills occupy exceedingly small floor space and yield an incredibly large amount of material. The steam must be sufficiently super-heated to prevent any condensation during the pulverization. The powdered ore is then mixed with soda and ground slaked lime obtained from oyster shells. The lime is slaked with a solution of soda, while the rest of the soda is added in the solid state, and the powdered ore being added, the whole is thoroughly mixed in a suitable machine. Even when it is desired to produce chromate of potash, in the first case soda is always used

The formation of the chromate takes place in ordinary reverberatory furnaces with six working doors, the material being put in at one end and drawn at the other, the mass being well raked up during the process. The air only enters through the cracks of the doors. The temperature to be reached is somewhere between red and white heat. It is decidedly higher than that obtained in the Le Blanc soda furnace. The flame must always act as an oxidizing agent. The whole mass remains in the furnace for eight hours.

The melt is treated in quite a different manner from that described by Häussermann, being lixiviated repeatedly with hot water in open iron pans, the solution being pumped from one pan to another. The residue is principally composed of iron oxide and lime, and is worthless. The liquid contains principally the sodium salt of chromic acid, (Na_2 Cr O_4), carbonic acid, silicic acid and aluminic acid, and a little sodium hydrate. The solution is evaporated to some small extent, and impregnated with sufficient sulphuric acid to change the other sodium salts into sulphate, and the chromate (Na_2 Cr O_4) into sodium bichromate (Na_2 Cr_2 O_7), although 2 % of chromate is still left. Tests will indicate when this point has been reached.

As we are now sure that no free chromic acid is present, the evaporation can be proceeded with in wrought iron pans provided with steam jackets and stirring apparatus, in which the sodium sulphate is separated in an almost anhydrous state as a precipitate. This is again converted by the Le Blanc process into sodium carbonate, which, in the form of a solution, is used again for slaking fresh quicklime. The solution of sodium pyrochromate is then either worked up for the salt itself or for the potassium salt. In the former case the solution is evaporated in flat pans, heated with steam, and which are provided with the revolving rakes. The evaporation is pushed to a point, at which, when the solution is allowed to cool, the mass becomes quite solid. To get the potassium chromate, we proceed by a method which differs from that given by Häussermann. The solution of sodium pyrochromate, free from sodium sulphate, is mixed with an equivalent quantity of a concentrated solution of potassium chloride, but the concentration must not be such as to allow the potassium bichromate to separate out at once. The solution is then concentrated again in iron pans heated by steam and furnished with stirring apparatus, being so far heated that chemical action occurs and sodium chloride separates out. The clear solution is cooled in leaden pans, into which strips of the same metal are suspended, whereby saleable crystals are obtained at once, which only need washing to free them from solid impurities. The mother liquor, by further evaporation, furnishes an impure product, which must be purified by re-crystallization. The second mother liquor has always to be reworked.

In conclusion, the author states that nearly all the operations can be performed in iron vessels, with the exception of the crystallizing pans and that in which the sulphuric acid is mixed with the alkaline chromate solution, all of which must be lined with lead.

The Discovery of Petroleum in Somersetshire.—Since the petroleum discoveries at Ashwick, considerable interest has been created amongst the residents in the neighbourhood, with the result that the vicinity of Ashwick shows the undoubted existence of oil in numerous other places, and is being found exuding from spots previously unknown. Messrs. Hall and Bush, mining engineers, have been in Ashwick making arrangements for boring and completing the acquisition of mineral rights over the whole neighbourhood. They and other experts are very sanguine that oil will be found in abundance, and certainly surface indications amply warrant their hopes. Ashwick Court well recently contained 40 feet of water, but the top was covered with oil.

Correspondence.

ANSWERS TO CORRESPONDENTS.

J. H.—Thanks for notification.

W. H. & Co.—We have done so.

C. B.—Please accept our acknowledgment.

T. F.—Many thanks for confirmation.

J. G.—Ferrocyanide, in an acid solution, would be as handy as anything.

Querist.—No, it was a typographical error. You will notice we have corrected the point in our own report.

Quid Nunc.—It is not an unparalleled case, though undoubtedly exceptional. A somewhat similar case occurred in 1891.

Our Book Shelf.

Annuaire de la Savonnerie et de la Parfumerie. By E. Moride. 362 pp. Illustrated. Paris: Baudry et Cie. 1894. 7s.

This annual again makes its appearance as usual, and contains a list of all the soap and perfume makers in France, and the chief makers in the other parts of the world Most of the English soap makers are tabulated under the heading of Great Britain and Ireland, but the list teems with gross typographical errors, which does not augur well for the remaining lists of Danish, Italian, Grecian, Roumanian, Turkish, Swedish, and Norwegian makers. The earlier portion of the book contains a series of articles of interest to the soap trade. At the very beginning a collection of tables of densities of soda and potash solutions and such like is given, together with a good deal of useful information about Twaddell and Baumé hydrometers, and general matters connected with specific gravity. Several analyses of potash, soda, and soap, are also to be found. Further on, some dozen or more articles appear upon the Analysis of oils. The testing of glycerine for impurities. Purification of works effluents. The volumetric analysis of soap and other matters. These articles are of interest and of practical value to soap makers. There is also an article on perfume extracting machinery. A somewhat useless article is that on the use of Le Blanc Soda in soap boiling, being really a description of the lixiviation and causticising of black ash. The analysis which is given as representative of Le Blanc soda shows that some confusion evidently exists, as the analysis reveals the presence of some 30% of calcium sulphide, 12% of calcium carbonate, and 3% of sand, which looks suspiciously like an analysis of black ash. One of the most useful of these contributions is the tariff of the official technical laboratory at Marseilles. Altogether the work constitutes a useful handbook for the soap trade, but is capable of much detailed improvement, which would vastly increase its utility, which even now is by no means inconsiderable.

Die Lehre von der Wellenberuhigung. By Dr. M. M. Richter. 99 pp. Berlin: R. Oppenheim. 1894. 2s.

This small work gives a short but complete account of the present position of the theory of wave stilling by means of oils. The three theories known as Franklin's theory, the diffusion theory, and the theory of surface tension, are each explained, occupying three separate chapters. Among the other subjects dealt with are the essential principles of wave calming by the aid of oils. The chemical constitution of oil. The efficacy of soap for this same purpose. The viscosity of oils. The production of motion on water surfaces by steam, and the rotary movements of solid bodies on water. The last chapter but one is devoted to a description of the properties of an ideal wave queller. The book contains a lot of useful information, and is a welcome contribution to the literature of this subject, which, however, is of rather limited interest.

The Storage of India-Rubber Solution.—A case of considerable interest to the india-rubber and cycle trades was decided at the Birmingham Police-court on Thursday, last week. The India-rubber, Guttapercha, aud Telegraph Works Company, of Silvertown, London, were summoned under the Petroleum Act of 1874, for storing without a licence, at their depôt in Albert-square, 1,277 lb. of india-rubber solution, which contains 84·8 per cent. of naphtha. It was contended that this commodity came within the meaning of the Act, and that a licence was required for its storage. It gave off inflammable vapour at 54 degrees Farenheit, instead of at 73 degrees. Mr. A. Young, for the defence, contended that the Act was never intended to apply to to petroleum in combination with an article of commerce, but merely to petroleum, and other oils specified, pure and simple. The Bench fined the defendants the nominal penalty of 40s. and costs, but intimated that in future similar offences would be more heavily dealt with. They expressed the hope that the solution, which was valued at £100., would not be forfeited, if defendants made proper provision for its storage.

Trade Notes.

The Electro Chemical Co., Limited.—We are inform the letters of allotment for this company were sent out on last T 27th ult.

The Value of Nitrate Property in Chili.—The v of the second batch of nitrate property, which is to sold by the Government shortly, has been put up at £1,900,000. The p or the total value of which this figure represents, consists of 42 lots.

Society of Chemical Industry (*London Section*).—T meeting of this section will be held at Burlington House on next at 8 p.m., when papers will be read on "Zymean Metallu Admiral J. H. Selwyn. "The Commercial Production of Chl the Ammonia Soda Process" by Mr. F. Bale, and "Notes on graphic Varnish" by Mr. F. H. Leeds.

Personal.—The value has been sworn at £21,866. of the estate of Dr. John Tyndall, late of Hindhead House, Has F.R.S., who died on the 4th December last. The will is date 1, 1891, and the sole executrix is his wife, Mrs. Louisa C Tyndall. To her the testator gives and bequeaths all his est effects and everything of which he had power to dispose.

Shipment of Salt from Weston.—On Friday morn the steamer *Marie Fleurie* came down the Ship Canal from Mar and went into Weston Docks, where she took in a cargo of 600 salt from the Salt Union, Limited, for London. This is t ship that has left the Ship Canal and entered the Weaver Dock

An Eight Hours Day in the Alum Trade.—M Spence has intimated to the workmen employed at Messrs. Spe Co 's extensive alum works at Goole a voluntary adoption of th hour day system. The men are to receive the same wages as h The change, which has already come into operation, is heartil ciated.

The Disposal of Sewage in Paris.—The French Cham been occupied this week discussing a measure which proposes permission to the authorities of the City of Paris to raise £4,700,000., to complete their sewer system and to acquire far for the disposal of the sewage. The scheme was elaborately d on behalf of the Government, who are introducing the Bill, by P Proust.

Society of Chemical Industry (*Liverpool Section*).— next meeting of this section, which will be held at the U College, Brownlow-street, on Wednesday, 7th inst., at 7-3 Mr. F. H. Tate will read a paper on "Methods of Rectifying and Mr. Max Muspratt on "The Quantitative Estimation of Cad Tea will be served in the Museum from 7 till 7-30. The general meeting of this section, when the usual election of offi take place, is to be held next month on April 4th.

The Employers' Liability Bill.—The President of th chester Chamber of Commerce reported at the meeting of the held recently, that the Chemical Sectional Committee, very carefully examined the clauses of this Bill, had recommen steps should be taken with a view to amendment in certain par These recommendations had been approved of by the Corresp Committee, and embodied in a letter addressed to the Home Se who had replied that it was not competent for the House of C to deal with proposed amendments other than those received House of Lords. The Bill having now been dropped, it wa that in the event of its re-introduction on a future occasion th raised by the Chemical Sectional Committee should be mind.

Market Reports.

TAR AND AMMONIA PRODUCTS.

Benzol is, if anything, a shade weaker for 90's, while 1s. represents present value of 50/90's. Solvent naphtha, 90% at last week's quotation. Crude carbolic acid, 60%, maint position at 1s. 8d. Pitch is still on the downward grade, and obtainable, f.o.b. East coast, at 27s. per ton.

Sulphate of ammonia is becalmed. Prices remain much the last week. The earliness of the season this year will a opportunity of testing prices, and the reports that the consum likely to be curtailed. The Beckton value is £14. to half easier. Sales have been made on Beckton terms at £13. 15s figure also represents the value of London outside makes, L

and Hull. Leith £13. 15s. to £13. 16s 3d. Forward business is out of the question.

REPORT ON MANURE MATERIAL.

Throughout the week the market has been quiet, but without material alteration in prices. Quotations do not offer much inducement to purchase ahead beyond the season's requirements, and pending removal of some of their stock of manures, the manufacturers do not seem inclined to take in much further stock of material. Quotations for mineral phosphates remain for the most part unchanged: Florida, 75/80%, finds buyers on the Continent at 8¾d. per unit, in cargoes, c.i.f., but to good United Kingdom ports, there are sellers at 8½d. Hot-air-dried South Carolina River rock offers at 7¾d, but this is relatively high, and we do not hear of business at the price. For Peace River rock 7¾d. is also asked, but something less would probably do. If these figures for 55/60% grade of rock are insisted upon, it is likely that more attention will again be directed to Continental phosphates, the use of which in United Kingdom has for some seasons past been on the decline. A further cargoe of River Plate bones, Spring shipment, has been sold for United Kingdom at £4. 13s. 9d. per ton, and that is about the closing value. In the absence of supplies we do not hear of any business in crushed Kurrachee bones, but the nominal value is about £5. 2s 6d., ex quay, Liverpool. Bombay bone meal has been selling on spot at £5. 2s. 6d. per ton, and that price to £5. 3s 9d. is asked for parcels now due. For March shipment £5. ex quay Liverpool would be taken. Mediterranean bones have been coming forward more freely, and selling at £4. 12s. 6d. ex quay Liverpool, but at the close that price could hardly be obtained. Nitrate of soda is quiet, but steady. On spot ordinary quality is selling at 9s. 4½d., and refined at 9s. 6d. per cwt. Due cargoes have been sold at 9s. 3¾d., and 9s. 3d. to 9s. 4½d., according to size and test, is closing value. There is nothing reported in miscellaneous manure material. Fish guano is inquired for, and is quoted 10s. and 10s. 6d. per unit of ammonia, and 1s. per unit of phosphate of lime.

MISCELLANEOUS CHEMICAL MARKET.

In the alkali trade the demand for bleaching powder and caustic soda is well maintained, and prices are unaltered. For bleaching powder £7. 10s, softwoods, f.o.r. makers' works, is the lowest quotation for spot delivery. Caustic soda, subject to variations according to market, is currently quoted as follows: f.o.b. Tyne, 77%, £10. 15s. per ton; f.o.b. Liverpool, 74%, £10. 5s.; 70%, £9. 5s.; 60%, £8. 5s.; cream, 60%, £8. per ton, 10-ton lots and upwards. For ammonia alkali, 58%, and soda crystals, the demand is not equal to the production, and some curtailment of output is now being made. Chlorate of potash is quoted on the spot at 7½d. per lb, and soda 8½d. to 8¾d. per lb. For recovered sulphur there is little inquiry, and prices have declined, £3. 17s. 6d. to £4. per ton being present price on rails at makers' works. Roll sulphur £5. 10s. to £5s. 15s. per ton. In sulphate of copper trade continues brisk at £15. 5s. to £15. 10s. f.o.b. For potash, caustic and carbonate, there is still good inquiry, and stocks being light, the prices are firmly maintained. For acetate of lime, brown and grey, the spot demand is only small, and prices have slightly declined. The easier tendency is also noticeable in all other acetates and acetic acid. There is good request for white arsenic, and with short supply of the article, prices on the spot are firm at £14. nett. Carbolic crystals have a hardening tendency. For aniline oil and salt 5¾d. and 5½d. per lb. respectively are nonimal prices—trade in these goods being exeedingly quiet. In oxalic acid the firmness is maintained. For sulphocyanides there is a fair amount of inquiry, and trade continues brisk in prussiate and cyanide of potash. Borax is a weak market at 27s. 6d. to 28s. per cwt.

LIVERPOOL OIL AND COLOUR MARKET.

WEDNESDAY.

OILS.—Palm oil has been moving much more freely at easier prices for future arrivals, and is steady. Lagos has sold at £22. spot, and £21 15s. to arrive. From £31. to £38. per tun is still value of olive, at which the market keeps steady with a moderate amount of business doing. Linseed is easier, owing to a decline in the demand, and current value for Liverpool makes in export casks is 21s. to 21s. 6d. per cwt. Cottonseed has again taken a turn in favour of buyers, Liverpool refined now being quoted 20s. 6d. to 21s. 6d. per cwt. Castor oil is quiet, good seconds Calcutta being easier at 2¼d., at which sales have been made. First pressure French offered at 2½d. to 2 1/16d. per lb., but quotations are nominal. Tallow is rather easier in price, with a consequent increase in business. Resin is firm, with common 3s. 9d. to 4s per cwt., other grades steady and scarce. Spirits of turpentine, after being held for 23s., are now offering at 22s. 9d. per cwt., at which they are fairly steady. Petroleum is rather dull, but American is still quoted 4⅛d. to 5⅛d., and Russian refined 3⅛d. to 3⅝d. per gallon.

COLOURS are steady without alteration in prices. Ochres: Oxfordshire, common, £10., medium, £12., best, £15.; Derbyshire, common, 40s.; medium, 50s., best, 60s.; Welsh, best, 70s., seconds, 50s., and common, 18s.; Irish, Devonshire, 40s. to 45s.; French, J.C., 55s. to 60s.; M.C., 65s. to 67s. 6d. Umber: Turkish quiet; Devonshire, 50s. to 55s. White lead, and oxide of zinc unchanged. Venetian red, £6. 10s. to £10. Cobalt: Prepared oxide, 9s. 9d.; black, 9s.; blue, 6s. Zaffres: No. 1, 3s. 6d.; No. 2, 2s. 6d. Oxide of iron: Common, £6.; medium, £10.; finest, £20. Zinc oxide, £23. to £25.

THE METAL MARKET.

LONDON, WEDNESDAY.—Pig iron quiet: Scotch warrants closed at 43s. 0½d., Middlesbrough 36s. 0½d. cash, and hematite 45s. 0½d. Copper, quiet: Chili bars, G.O.B.'s and G.M.B.'s, closed at £40. 18s. 9d. to £41. 3s. 9d. cash, and £41. 8s. 9d. to £41. 13s. 9d. three months. Tin, unsettled: Straits closed at £65. 15s. to £66. 5s. cash, and £66. 15s. to £67. 5s. three months; Australian, £66. Lead, steady: English, £9. 7s. 6d. to £9. 10s; Spanish, £9. 6s. 3d. Silesian spelter, ordinary, £15. 10s. Nickel, 1s. 8½d. Antimony, £36. 10s. Quicksilver: second hands, £5. 15s. *Copper shares* steady: Cape, 1 6/16 to 1 7/16; Copiapo, 1¾ to 1⅞; Libiola, 3 7/16 to 3 9/16; Mason and Barry, 2⅜ to 2½; Rio Tinto, 14 9/16 to 14 11/16; Tharsis, 4¾ to 5.

TYNE CHEMICAL REPORT.

TUESDAY.

Chemicals are quiet, and prices all round are without alteration. Soda crystals, £2. 5s. per ton gross weight. High strength 76/77% caustic in demand at £10. 15s. to £11.; 70%, £9 per ton. Sulphur, £4. 2s. 6d. per ton.

Bleaching Powder, softs, £7. 10s. per ton, nett; hards, £7. 15s per ton, nett; caustic soda, 76/77%, £10. 15s. per ton, nett; do., 70%, £9. 0s. per ton, nett; recovered sulphur, 2cwt. bags, £4. 2s. 6d. per ton, nett; soda ash, 48%, £3. 12s. 6d. per ton, nett; do., 52%, £3. 16s. 3d. per ton, nett; do, 56%, £4. 0s. per ton, nett; alkali, 36%, £2. 15s. per ton, nett; white alkali, 48%, £4. 10s per ton, nett; do, 50%, £4. 15s. per ton, nett; do., 52%, £5. 5s. per ton, nett; hyposulphite of soda, 5-7 cwt. casks, £5. per ton; do., 1 cwt. kegs, £5. 10s. per ton, nett; silicate of soda, 75° Tw., £2. 17s. 6d. per ton, nett; do., 100° Tw., £3. 12s. 6d per ton, nett; do., 140° Tw., £4. per ton, nett; soda crystals, casks, £2. 5s. per ton gross weight; do., 2 cwt. bags, £2. 5s. 0d. per ton, nett; chlorate of potash, 8½d. per lb., less 6%; pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £4. 2s. 6d. per ton, nett; blanc fixe, £7. 10s. per ton, nett; chloride of barium, £7. 10s. per ton, nett; carbonate of alumina, £28. 15s. per ton, nett; aluminate of soda, £33. 15s per ton, nett; in 5 ton lots, £28. 10s. per ton, nett.

South Durham Salt unaltered at 9s. 6d. per ton, f.o.b. Tees. A steady business doing.

Coals.—Trade generally may be said to be fairly good, and prices unaltered. Best Northumbrian steam, 10s. 6d. per ton, nett; small steam, 4s. per ton, nett; gas coals firm, at 7s 3d. to 7s. 9d. per ton, nett; bunker coals weak, 7s. to 7s. 6d. per ton, nett; coke in moderate demand, 14s. 6d. to 15s. per ton, nett.

A proposal for another combination, this time to maintain the price of small steam, is said to be in the wind.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, TUESDAY.

The precise position of sulphate of ammonia is hardly ascertainable at the present moment, but it seems probable that, following the recent tendency to weakness, there has been some slight recovery. Selling, it is now known, was done as low down as £13. 12s. 6d., if not lower; but it cannot be had at that now, £13. 15s. being probably the lowest buying figure, while some of the makers still talk of £13. 17s. 6d. Little is passing however at any price, and there is nothing at all doing for forward.

Mineral oils are lower in the medium gravity of the lubricating section, the other gravities being also weakly, although unchanged as yet in price. Burning oil unchanged, but the demand is now decidedly past its best for the season, and will soon be down to a minimum, there to remain till the next consumptive season begins to show itself in advance. Paraffin spirit is down a farthing; solid paraffins unchanged in price, but transactions fewer.

In the general market there is still an increasing inquiry for standard chemicals, but without corresponding action in the placing of orders. Bleach and soda ash are possibly firmer. Chlorate of potash is cheaper. The others are unchanged nominally.

Chief prices current are:—Soda crystals £2. 5s. nett, Tyne; soda ash £3. 17s. 6d. nett, Tyne; white alkali 48/52° £4 10s to £5. nett, Tyne; alum in lump £5. nett, Glasgow; caustic soda, white, 74° £10. 10s., 70/72° £9. 5s., 60/62° £8. 5s., and cream 60/62° £8., all nett, Liverpool; bleaching powder £7. 10s., nett, Tyne; saltcake, 17s. 6d.; borax, English refined, £30., and boracic acid, £37. 10s. nett, Glasgow; bicarbonate of soda, 5-cwt. casks, £6. 10s., and 1 cwt. casks £6. 15s. nett, Liverpool; bichromate of potash, 4½d. nett, for Scotch and English deliveries (for export, 4¼d. nett, f.o.b. Glasgow); bichromate of soda, 3¾d. nett, for Scotch and English deliveries (for export, 3½d. nett, f.o.b. Glasgow); chlorate of potash, 7¾d. less 5%, Liverpool; nitrate of soda, 9s. 6d; sulphate of ammonia, £13. 15s., f.o.b. Leith; salammoniac, first and second white, £39. and £37. nett, any port; sulphate of copper, £15. 5s., less 5% Liverpool; paraffin scale, hard 1⅞d. per lb.; soft 1⅞d. to 2d.; paraffin wax 120° semi-refined 2⅜d. to 2½d.; paraffin spirit (naphtha), 4¼d. per gallon; paraffin oil (burning), standard No. 1 grade, 5d. at works, for Scotch buyers (English sales, ½d to ¾d. lower); ditto (lubricating) 865° £3. 15s. to £4., 885° £4. to £5., and 890/895° £5. to £6. Week's imports of raw sugar at Greenock were *nil.*

HULL PAINT, OIL, AND COLOUR REPORT.

Tuesday.

OILS.—The following is a return of the tonnage upon which dues have been paid to the North-Eastern Company's docks from the 1st January to February 24th, 1894, 338,772 tons, against 283,668 tons in 1893. Amongst the principal imports up to date are the following: Linseed 75,283 qrs., against 14,339 qrs. during the same time a year ago; rapeseed 17,756 qrs., against 14,695; cottonseed 54,826 tons, against 51,367 tons; olive oil 3,509 casks, against 1,940 casks; rape oil 1,563 casks, against 1,113 casks; oil cakes 5,362 tons, against 1,113 tons; tallow, 3,363 cwts., against 5,365 cwts.; bones, 1,168 tons, against 1,450 tons; turpentine 4,020 barrels, against 1,536 barrels. Guano 126 tons, against nil. Linseed oil has declined about 5s. per ton, closing, however, firm at 19s. 3d. naked spot. March-April or May-Aug. offer at 19s. 3d., Sept.-Dec. 18s. 6d. buyers. Casks 17s. 6d., and ordinary barrels 22s. 6d. per ton extra. Export for the week, 1,220 cwts. Refined cotton oil also lower, closing flat at 18s. 6d. naked spot; March-April quoted at 18s. 7½d., and May-Aug., 19s. 3d; crude ditto, 16s. 10½d. naked spot; edible qualities from £1 per ton extra. Export of refined for the week, 6,220 cwts. Rape oil is very weak, and Black Sea is quoted at 19s. 6d. in casks; spirits of turpentine, 23s. in barrels; olive oil unchanged; tallow firmer; cod oil, £17. 10s. to £19. 10s. per ton; castor oil, first pressure, 2½d. per lb.; pale seal oil, £21. per ton; sod oil, for curriers, &c., from £16. per ton; brown wool grease, £8. per ton; engine and cylinder oils from 1s. to 2s. per gallon.

CAKES.—Linseed cakes: Orders have been more plentiful during the week. 95 per cent pure, £8. 10s. to £8. 12s. 6d.; Russians, £7. 17s. 6d to £8. 5s.; oilcakes, £7. 2s. 6d. to £7. 7s. 6d.; Polish, £8. 5s. Cotton cakes: A steady demand, at unaltered prices; best makes £5, seconds £4. 15s. Rape cakes: East India, £4. 12s 6d.; Black Sea, £3. 17s. 6d.

PAINTS.—These goods continue in steady demand, the prices being: Oxide of zinc paint, £22. per ton; oxide of iron dry, from £9. to £18; Venetian red dry, in casks free, from £6. to £10. per ton; red lead, £13 10s. per ton; white lead, £17. 10s. per ton. Ready-mixed paints in 1lb, 2lb., 4lb, and 7lb. tins, from £26. per ton. Oak varnish, from 5s. 6d. per gallon. Common black varnish, £5. 10s. per ton, in barrels free, f.o.b. or f.o.r.

New Companies.

Porceleine Company, Limited.—Capital £6,000. in shares of £5. each. This company has been formed to manufacture porceleine, white lead, zinc, white and other colours, varnishes and chemicals, etc.

Metropolitan Chemical Syndicate, Limited.—Capital £1,000. in shares of £1. each. This company has been formed to purchase certain works at 43, Hancock-road, Bromley-by-Bow, and to carry on the business of manufacturing chemists.

Joseph Cunliffe and Son, Limited.—Capital £50,000. in shares of £10. each. This company has been formed to acquire the business of fullers, bleachers, printers of silk, cotton, and other goods, now carried on at the Kem Mill Printworks, Lancashire, by Joseph Cunliffe.

James and M. S. Sharp and Company, Limited.—Capital £110,000., of which 5,000 are preference. This company has been formed to take over the business of dyers, calico printers, manufacturers of dyes and colours, now carried on at Lowmoor, Bradford, by James Sharp and Sons, at the Tower Dye Works.

Real Asturias Cobalt Company, Limited.—Capital £2 in shares of £1. each. This company has been formed to we develop certain mineral mines belonging to the company. T scribers to the memorandum of association are:—D. Macdo Avenue-road, London, N.W., civil engineer; W. Vincen Cannon-street, London, E.C., secretary; E. Mortlock, 122, street, London, S.W., broker; A. Lucy, West Marden Hall, merchant; C. W. Hughes, Putney, wine merchant; A. S. P. d Midland Hotel, London, N.W., engineer; S. S. Barritt, M Hotel, London, N.W., merchant.

North Faversham Brickworks, Limited.—Capital £20, shares of £5. each. This company has been formed to acqu estate of G. Lyell and others, and to work clay, chalk, an minerals, and to carry on the business of brick and tile makers. subscribers to the memorandum of association are:—O. Dan, sham, brickmaker; W. Ulrich, 23, Martins-lane, London, secretary; E. J. Ockenden, West Brighton, brickmaker; Hutchinson, 162, Upton-lane, Forest Gate, coal exporter; C. Castleman-gardens, London, S.W., surveyor; G. de Maid, 217, Kennington-lane, London, S.W., accountant; W. L. White, Park, Essex, traveller.

Commercial Lead Company, Limited.—Capital £200, shares of £10. each. This company has been formed to certain patents, and to carry on the business of dealers, manufa and desilverisers of lead. The subscribers to the memorandum ciation are:—G. E. T. Smithson, Newcastle, merchant; Craddock, 7, East India-avenue, London, E.C., merchant; Bainbridge, Chester, mining engineer; J. B. Lennard, 43, Bry street, London, W., late secretary; A. Townshend, 101, Lead street, London, E.C., shipowner; E. E. W. Bagley, 5, Park London, S.W., gentleman; B. E. Elkins, Savoy Mansions, London, W.C., solicitor.

Artillery Cement Works, Limited.—Capital £30,000. in of £10. This company has been formed to acquire the works as the Artillery Cement Works, Greenhithe, Kent, and to carry business of manufacturers and dealers in Portland and other ce whiting, etc. The subscribers to the memorandum of associatio —F. E. Rosher, Upper Jamaica Wharf, Blackfriars, London, merchant; H. C. Cooly, 53, Trinity-square, London, E.C., ma E. F. Seymour Eversley, Cresent-road, Sidcup, accountant; M. 46, Holborn Viaduct, London, E.C., accountant; W. Ea Avenue Elmers, Surbiton, justice of the peace; J. H Ea Avenue Elmers, Surbiton, gentleman; A. Howlett, 14, Bedford London, W.C., solicitor.

The Patent List.

This list is compiled from Official sources in the Man Technical Laboratory, under the immediate supervisi George E. Davis and Alfred R. Davis, who report profess upon the value of Chemical Patents.

APPLICATIONS FOR ENGLISH LETTERS PATEN

Manufacture of Explosives from Ammonium Nitrate and Resi D. Abel. 3,024. February 12.
Manufacture of Saponaceous Products from Petroleum. C. W 3,025. February 12.
Azo Dyestuffs. H. E. Newton. 3,032. February 12.
New Mordant-Dyeing Colouring Matters and Intermediate Pr J. Y. Johnson. 3,036. February 12.
Apparatus for Treating "Caustic Salts." J. Brock, V. C. Driffield, A. and F. Brown 3,037. February 12.
Improvements in Oil Press Bags. J. Lorraine. 3,043. February 12.
Disinfecting, Bleaching, and Converting Rags into "Half-Stuf P. Eastick and W. J. Stonhill. 3,103. February 13.
Preparation for Cleansing Vulcanite. L. Levy and S. Levy. February 14.
Improvements in the Extraction of Seed Oils. H. Lambert. February 14.
Apparatus for Desilverising Lead. J. W. Swan. 3,228. February 14
Improvements in Hydrocarbon Burners. A. Kiesow. 3,319. Febr
Manufacture of Oxides and Carbonates of Lead. S. Z. de Ferra J. H. Noad. 3,372. February 16.
Manufacture of Oil Gas. W. R. Herring. 3,395. February 16.
Improvements in the Manufacture of Salt. R. C. Wilson. 3,413.
Improved Treatment of Sulphite Pulp. E. Partington. 3,440. Febr
New Mordant-Dyeing Colouring Matters. J. Y. Johnson. 3,474.
Process and Apparatus for Cleaning Wool, etc. O. Reichenbach. February 17.

Gazette Notices.

PARTNERSHIP DISSOLVED.

A. J. Fenner and D. J. Patterson, chemical manufacturers, Bradfo Manchester, and Attercliffe, Sheffield, under the style of A. J. Fenner &

IMPORTS OF CHEMICAL PRODUCTS
AT
THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending February 17th.

Acetic Acid—
Holland, 134 pkgs. A. & M. Zimmermann

Acetone—
Germany, 4 pkgs. A & M Zimmermann

Alkali—
Germany, 400 c. Pillow, Jones, & Co.

Alum—
Holland, 6 cks. W. Burton & Sons

Aluminium—
Belgium, £112 Major & Field

Anthracene—
Holland, 169 pkgs. Burt, Boulton, & Co.

Antimony Ore—
Portugal, 50 t. J. Bamber
N Zealand, 18 Major & Field

Arsenic—
Germany. 30 pkgs. B. & F. Wf Co., Ltd

Asbestos—
Italy, £7 Mory & Co
France, 34 ,,
Holland, 50 G Rahn & Co.

Barium Chloride—
Germany, 5 pkgs. Petri Brs.

Barytes—
Germany, 23 cks. R. Bew
,, 111 W. Harrison & Co.
,, 27 H. Lambert
Belgium, 44 A. Zumbeck & Co.
,, 18 W. Harrison & Co.
,, 10 brls J. L. Lyon & Co.
,, 70 cks. D. Storer & Sons
Holland, 22 W. Pope & Co

Bromide of Iron—
Germany, 20 pkgs. A. & M Zimmermann

Caoutchouc—
U. States, 18 c. F. Huth & Co.
E. Indies, 10 L. & I. D. Jt. Co.
France, 38 ,,
Rangoon, 30 ,,
Zanzibar, 59 ,,
Greytown, 14 Lewis & Peat
,, 128 Price. Hickman. & Co.
Savanilla, 3 Hoare, Wilson & Co.
Germany, 6 F. Huth & Co.
,, 8 Stiebel Brs.
,, 6 T. H. Lee
Madagascar, 25 Procter Brs.
Majunga. 71 W. M. Smith & Sons

Castor Oil—
Italy, 5 cs. W G. Frith & Co
E. Indies, 177 Anderson, Weber & Smith
,, 230 cks. Cayzer, Irvine, & Co
,, 312 pkgs. Ross & Deering
,, 500 cs. Kiero, Moakes, & Co.
Belgium, 56 brls Fuerst Brs.

Caustic Potash—
Holland, 20 c Beresford & Co.
France, 120 ,,
Belgium, 50 Petri Brs.

Chemicals (*otherwise undescribed*)
France, £15 B & F. Wf. Co., Ltd
Germany, 20 L. & I. D. Jt. Co.
,, 34 pkgs T. H. Lee
,, 45 A. & M Zimmermann
,, 12 H Grey, junr.
,, 1 Phillipps & Graves

Chrome Ore—
Australia, 83 t Dalgety & Co, Ltd.

Cream of Tartar—
France, 12 pkgs. Allan, Bros., & Co
,, 25 cks. W. C Bacon & Co.
,, 3 Domeier & Co.
,, 2 Ross & Deering
,, 20 pkgs. B. & F. Wf Co., Ltd.
Spain, 6 ,,
,, 4 3 cks. W. C. Bacon & Co.
,, 10 G. Boor & Co.

Dyestuffs—
Aniline
Germany, 1 pkg H. Lambert
Argols
France, 203 pkgs. Williams, Torrey & Co.
Cutch
Rangoon, 3,900 pkgs. Leach & Co.
,, 500 J. & G. Bulloch & Co.
,, 500 Anderson, Weber, & Smith
,, 200 A. Howden & Co.
,, 250 Phillipps & Graves
,, 500 Clyde S. Co.
,, 500 Hoare, Wilson, & Co.
,, 1,500 Arracan Co., Ltd.
,, 250 H. J. Perlbach & Co.
Extracts
France, 40 drs. Carey & Sons
,, 50 pkgs. Union L Co., Ltd.
,, 50 B. & F. Wf Co, Ltd
,, 111 Prop. Chmbln.'s Wf.
Denmark, 7 A. F. White & Co.
Germany, 100 8 cks. T. H. Lee
Gambier
E Indies. 1,762 pkgs. G Ward & Sons
,, 2,382 R. & J. Henderson
,, 1.490 L. & I. D. Jt. Co.
,, 1 540 Adamson, Gilfillan & Co.
Indigo
E. Indies, 65 chts. Croysdale & Co.
,, 150 Park, Macfadyen & Co.
,, 97 Ross & Deering
,, 11 Wallace Bros.
,, 276 L & I. D. Jt. Co.
,, 144 R. Von Glehn & Sons
,, 69 Elkan & Co.
,, 10 F Huth & Co.
,, 20 H. Johnson & Sons
,, 24 Fales & Rutherford
,, 5 Phillipps & Graves
,, 51 Arbuthnot, Latham, & Co.
,, 9 Kleinwort, Sons, & Co.
,, 4 Dipnall & Co.
,, 15 Stansbury & Co.
,, 46 T. Barlow & Bro.
,, 2 Parsons & Keith
,, 6 Williams, Torrey, & Co.
,, 14 Gray, Dawes, & Co.
,, 105 P. & O. Co.
,, 62 Ernsthausen & Co.
,, 23 J. Kenyon & Sons
,, 4 E. Bower & Co.
,, 6 London & Hanseatic Bk.
,, 46 Darling Brs.
,, 8 G. Steinthal & Co.
,, 37 Ripley, Roberts, & Co.
Greytown, 28 Cotesworth & Powell
,, 34 Benito Novella, & Co.
,, 27 Patry & Pasteur
U. States, 7 Lazard Brs & Co.
Myrabolams
E. Indies, 1,000 pkgs. A. Hagan
Orchella
Portugal, 75 pkgs. Prop. Bull Wf.
Safflower
E. Indies, 13 pkgs. L & I D. Jt. Co.
Shumac
Spain, 100 pkgs. G Kenyon
Italy, 200 J. Knill & Co.
Tanner's Bark
Natal, 103 t. A. & W. Nesbitt
,, 7 Flack, Chandler & Co.
Turmeric
E. Indies, 500 pkgs. E. D. Sassoon & Co
Valonia
A. Turkey, 40 t. A. & W. Nesbitt
,, 10 Hicks, Nash, & Co.
,, 2 M. D. Co.

Dyestuffs (*otherwise undescribed*)
Holland, 2 pkgs. L. C. & D. Rly. Co.

Farina—
Germany, 60 pkgs. Orient Co, Ltd.
,, 100 C Tennant, Sons, & Co.

Glucose—
Germany, 300 pkgs 300 c. Baxter & Hoare
,, 100 100 Hicks, Nash, & Co.
Holland, 200 200 Prop. Sun Wf
France, 100 100 J. Barber & Co.
,, 100 100 L Norman & Co., Ld
,, 4,000 4,000 Fuerst Brs.
France, 2 100 3,731 L. Sutro & Co. Ltd.
,, 500 500 Trier, Meyer, & Co.
,, 1,100 1,602 R. G. Hall & Co.
,, 100 598 Deering & Robottom
,, 100 560 Un. Lightge. Co. Ltd.
,, 100 550 Prop. Chmbln.'s Wf.
,, 1,700 1,700 Barrett, Tagant. & Co.
,, 2,300 2,300 Fellows, Morton & Co.
,, 50 283 Pillow, Jones, & Co.

Lead Acetate—
Germany, 29 pkgs. F. Boehm

Manure—
Germany, 75 t. W. Montgomery & Co.
E Indies, 350 A. Hunter & Co.
,, 100 F. J. Cornwell & Co.

Methyl Alcohol—
Belgium, 18 dms. Stein Brs.

Mica—
E. Indies, £274 W. M. Smith & Sons
U States, 24 pkgs. ,,

Ochre—
France, 13 cks. J Greig
,, 7 M. D. Co.
Holland, 11 cs. Phillipps & Graves

Paraffin Wax—
U. States, 180 brls. H. Hill & Sons
Rangoon, 495 cs. ,,

Phosphate Rock—
—— 138 t. A. Hunter & Co.
France, 150 ,,
,, 281 Lawes Manure Co.
Belgium, 4 H. & E Albert
Germany, 10 H. Lambert

Pitch—
France, 12 pkgs. B & F. Wf. Co., Ltd.

Plumbago—
Holland, 93 cks. B. Gallaway
Ceylon, 261 Beresford & Co.
,, 80 brls. Prop. Sun Wf.
,, 114 R. G. Hall & Co.
,, 326 J. Thredder, Son, & Co.
,, 70 Doulton & Co

Potash—
France, 80 c. Petri Brs.

Potassium Carbonate—
France, 110 c. J. A. Reid
Belgium, 130 Petri Brs.

Potassium Cyanide—
Holland, 1 pkge. Beresford & Co.

Potassium Oxymuriate—
Belgium, 20 pkgs. G. Boor & Co.

Potassium Sulphate—
Germany, 119 pkgs. W. G. Blagden

Pumice Stone—
Canary, 27 c. Swanston & Co.

Pyrites—
Spain, 1,300 t. C. L. Vasey & Co.

Quicksilver—
Spain, 100 btls. L. & I. D. Jt Co.

Rosin—
Germany, 4 brls. H. Lambert
U. States, 5,772 Prod. Brokers Co.
,, 3,130 F. & S. Chiesman & Co,
,, 1,000 Fairclough, Dodd, & Co.

Salicylates—
Holland, 10 pkgs. Beresford & Co.

Saltpetre—
Germany, 52 cks. J Hall & Son
,, 2 Brown & Elmslie
,, 307 250 bgs. P. Hecker & Co.
,, 4 Petri Brs.
Belgium, 85 P. Hecker & Co.
E. Indies, 581 Co-op. Lgtge. Assn.

Sodium Bisulphite—
Holland, 40 pkgs. Beresford & Co.

Sodium Hyposulphite—
Germany, 186 pkgs. F. Boehm

Sodium Sulphide—
Belgium, 6 pkgs. R W. Greeff & Co.

Starch—
Germany, 4.371 pkgs. Horne & Co.
,, 70 Seaward Brs.
Belgium, 40 T. H. Lee
,, 180 F. Rosenthal & Co.
,, 40 Leach & Co.
,, 26 Tingle, Jacobs, & Co.
Holland, 169 Phillipps & Graves
,, 189 Taylor Brs.
,, 45 J. Barber & Co.
,, 146 Little & Johnston

Stearine—
Melbourne, 95 bgs. Campbell, Seearer & Co.
Belgium, 111 H. Hill & Sons
France, 80 Walbaum & Tosetti
,, 142 Beresford & Co.

Sulphur—
Italy, 10 t. F. & L. Sitzler
,, 10 G. Boor & Co.
,, 10 J. Kitchin, Ltd.
,, 8 J. Puddy & Co.
,, 14 F. C. Devon & Co
France, 4 G. Ward & Sons

Tartaric Acid—
Holland, 6 pkgs. B. & F. Wf. Co., Ltd.
,, 16 Kirkpatrick & Co.

Turpentine—
U. States, 550 brls. Fairclough, Dodd, & Jones
N. Russia, 100 Chiesman & Co.

Ultramarine—
Germany, 5 cs H. Brookes & Co.
,, 48 cks. Steinhoff, Sons, & Co.
Holland, 74 pkgs. Haeffner, Hilpert, & Co.
,, 1 cs. G Rahn & Co.
,, 4 J Barber & Co.
Belgium, 6 cks. 6 brls. Leach & Co.

Varnish—
France, 26 pkgs. Flageollet & Co.
Belgium, 11 Stobbs, Wilson, & Co.
,, 3 T. H. Lee
France, 15 Suter, Hartman. & Co.

White Lead—
France, 30 cks. J. Watt & Son
,, 10 Colthurst & Harding
Germany, 24 Thames S. T. & L. Co., Ltd.
,, 4 Spies Brs. & Co.
,, 16 R. Bew
,, 25 W. Harrison & Co.
Holland, 60 W. & A. Hampton
,, 30 J. Matton

Zinc Oxide—
Holland, 4 cks A. Zumbeck & Co.
,, 45 Beresford & Co.
,, 50 brls. M. Ashby, Ltd.
,, 20 J. Matton

LIVERPOOL.

Week ending February 15th.

Acetate of Lime—
New York, 184 bgs.

Bone Meal—
Kurrachee, 2,500 bgs. Ralli Brs.

Chemicals (*otherwise undescribed*)
Rotterdam, 29 cks. 23 cs.
Hamburg, 1

Colours—
Rotterdam, 21 cks.
Hamburg, 3

Copper Sulphate—
Baltimore, 136 brls.

Dyestuffs—
Cochineal
Las Palmas, 10 bgs. Widow Duranty & Son
" 10 Burrell & Co.
" 20 Sperling & Williams
" 10 A. Mather
Extracts
Hamburg, 40 cs.
Bordeaux, 200 cks.
Fustic
Savanill', 1,866 lgs G. H. Muller & Co
Logwood
Belize, 142 t. R. Cramer
Kingston, Ja., 390 10 c.
Madder
Rotterdam, 4 cks.
Orchella
Lisbon, 13 bdls. A. Barbosa & Co.
San Francisco, 470 J. P. Hale
Valonia
Syra, 294 bgs. Barff & Co.
Smyrna, 386

Glucose —
Dunkirk, 200 bgs.
Rotterdam, 10 cks.
Baltimore, 150 brls.
Philadelphia, 200

Guano—
B. Ayres 3,596 bgs. W. Lowe & Sons

Paint—
Philadelphia, 70 brls.
New York, 20 4 kils.

Painters' Colours—
Rotterdam, 21 pkgs.

Paraffin Scale—
Philadelphia, 500 cs 327 brls.

Phosphate—
Charlott Harbour, 795 t.

Phosphate Rock—
Oruba 395 t. T. Vickers & Son

Pitch—
Dunkirk, 12 cks.

Potash —
Hamburg, 10 cks.

Pyrites —
Huelva, 1,253 t. Matheson & Co.

Rosin—
Bayonne, 3,048 brls.
Maranham, 96 bgs. Pinto Leite & Sobr

Saltpetre—
Rotterdam, 170 bgs.
Hamburg, 100 kgs. 2 cks.

Starch—
Rotterdam, 244 cs.
Boston, 240 sks.
Hamburg, 79

Stearine—
Rotterdam, 12 bls. 5 cs.

Sulphur Ore—
Huelva, 1,409 t. Matheson & Co.

Tallow—
New York, 10 brls. Wilson, Morris, & Co
Zarate, 127 356 pps. J. Nelson & Sons

Tartar—
Bordeaux, 65 cks

Tartaric Acid—
Rotterdam, 12 cks.

Ultramarine—
Rotterdam, 8 cs. 3 cks.

Varnish—
New York, 27 cs.

White Lead—
Rotterdam, 33 cks.

Zinc Ashes—
Dunkirk, 980 bgs.

Zinc White—
Rotterdam, 70 cks.

MANCHESTER.

Week ending February 17th.

Alumina Sulphate—
Rotterdam, 72 brls.

Antimony Fluoride—
Rotterdam, 5 cks.

Ant mony Oxalate—
Rotterdam, 10 cks

Antimony Salts—
Hamburg, 5 cs. T. Kenyon & Sons

Barium Chloride—
Hamburg, 11 cks. R. Schlosser & Co.

Barytes—
Rotterdam, 23 cks.

Chemicals (*otherwise undescribed*)
Rotterdam, 6 cks.
Hamburg, 11 1 cs. M. J. Langdon & Co.
" 1 A. Ramgon

Chrome Alum—
Rotterdam, 31 cs.

Colours—
Treport, 13 cks. 7 cs.
Rotterdam, 74 9
" 30
Hamburg, 3 H. Kupferberg & Co.
Antwerp, 1

Cream of Tartar—
Rotterdam, 21 cks.

Dyestuffs—
Alizarine
Rotterdam, 39 cks. 158 brls. 2 bxs.
Indigo
Rotterdam, 1 cs.
Logwood
Old Harbour, 616 t.
White House, 441 E. Brownbill & Co.

Farina—
Rotterdam, 50 bls.
Hamburg, 100 bgs. W. Poppelreuter

Lead Acetate—
Hamburg, 37 cks.

Limestone—
Antwerp, 3 crts.

Ochre—
Treport, 62 cks.

Sodium Acetate—
Treport, 19 cks.

Sodium Prussiate—
Antwerp, 20 brls.

Starch—
Rotterdam, 20 cs.
Hamburg, 144 W. Williamson & Co.
Antwerp, 30

Tar—
Rotterdam, 22 cks.

Tartar—
Bordeaux, 2 cks.
Hamburg, 17 P. Segner
" 4 H. Kupferberg & Co.

Tartaric Acid—
Rotterdam, 50 cks.

Ultramarine—
Rotterdam, 19 cs.

Waste Salt—
Hamburg, 102 bgs.

Wood Spirit—
Hamburg, 2 dms.

HULL.

Week ending February 17th.

Acetate—
New York, 461 bgs. Wilson, Sons, & Co., Ld
" 228

Acid—
Barletta, 20 cks. Wilson, Sons, & Co., Ld.

Aniline Salt—
Rotterdam, 7 cks.

Barytes—
Rotterdam, 145 cks.
Antwerp, 90 100 bgs. Bailey & Leetham
" 82

Bone Meal—
Bombay, 2,650 bgs.

Castor Oil—
Bergen, 21 cs. Wilson, Sons, & Co., Ld.

Cellulose—
Trieste, 500 bls. Wilson Sons, & Co., Ld.

Chemicals (*otherwise undescribed*)
Stettin, 33 brls. Wilson, Sons, & Co., Ld.
Antwerp, 380 pks "

Colours—
Rotterdam, 10 cs. 7 cks. 3 pks.
Flushing, 2 17
Copenhagen, 3 Wilson, Sons, & Co., Ltd.
Rotterdam, 5 pks. W. & C. L. Ringrose
" 8 Hutchinson & Son
Antwerp, 1 brl.
Flushing, 39 cks. Hutchinson & Son
Cologne, 3

Cream of Tartar—
Rotterdam, 1 ck. G. Lawson & Sons

Dextrine—
Stettin, 220 bgs. Wilson Sons, & Co., Ltd.

Dyestuffs—
Alizarine
Rotterdam, 20 brls.
Cochineal
Hamburg, 7 bls. Wilson, Sons, & Co., Ld.
Indigo
Amsterdam, 2 chts. Wilson, Sons, & Co., Ltd.
Logwood
Hamburg, 20 bgs. Wilson Sons, & Co., Ld.

Farina—
Stettin, 1,000 bgs. Wilson, Sons, & Co., Ld.
" 900
Harlingen, 140
Ghent, 160 cs. Wilson, Sons, & Co , Ld.

Glucose—
Rotterdam, 6 bgs.
Stettin, 800
New York, 525 brls.

Naphthol—
Hamburg, 6 cks. Wilson, Sons, & Co., Ld.

Ochre—
Rouen, 12 cks.

Paint—
New York, 120 cs. Wilson, Sons, & Co., Ltd.
Boston, 94 "

Phosphate—
Ghent, 1,060 bgs. Wilson, Sons, & Co., Ltd.

Potash—
Dunkirk, 2 cks. Wilson, Sons, & Co., Ld.
Stettin, 2 "

Pumice Stone—
Messina, 19 cks. 70 pks. Wilson, Sons, & Co., Ld.
" 54
New York, 1 cs. "

Salt—
Hamburg, 1 cs. Wilson, Sons, & Co., Ld.

Saltpetre—
Hamburg, 5 cks.

Soap—
Bari, 22 cs. Wilson, Sons, & Co., Ltd.
" 208

Soda—
Rotterdam, 17 cks. G. Lawson & Sons

Starch—
Rotterdam, 129 cs G. Lawson & Sons

Stearine—
Antwerp, 200 bgs. John Seed & Sons
" 2
New York, 60 tcs. Wilson, Sons, & Co., Ltd.

Tartaric Acid—
Rotterdam, 16 cks. G. Lawson & Sons
" 4

Turpentine—
Hamburg, 10 cks. Wilson, Sons, & Co., Ltd.
Bordeaux, 14 brls. R
Libau, 104

Ultramarine—
Cologne, 4 cks.

Varnish—
New York, 17 brls. 13 cs. Sons, &

Waste Salt—
Hamburg, 406 bgs. Furl
" 407

White Lead—
Antwerp, 49 cks.
Cologne, 67

GLASGOW

Week ending February

Acetate of Lime—
New York, 2,703 bgs.

Ammonium Chloride—
Rotterdam, 1 ck. J. R

Arachide Oil—
Rotterdam, 4 cks. J.

Barium Sulphate—
Antwerp, 100 bgs. 34 cks

Barytes—
Rotterdam, 42 cks. J.
" 20
Bremen, 28

Bone Meal—
Bombay, 3,253 bgs.

Castor Oil—
Marseilles, 18 cs. 259 brls

Chrome Alum—
Rotterdam, 24 cks. J.

Colours—
Rotterdam, 12 bxs. 16 brls. J.

Cottonseed Oil—
Rotterdam, 1 brl. J. R

Cream of Tartar—
Marseilles, 23 brls.

Dyestuffs—
Alizarine
Rotterdam, 21 cks. 7 brls. J.
Argols
Bordeaux, 45 bgs.
Cutch
New York, 10 bgs.
Extracts
Antwerp, 1 ck.
Nantes, 100
New York, 70 bxs.
Madder
Rotterdam, 3 cks. J.
Shumac
New York, 50 bgs.
Palermo, 250
Valonia
Smyrna, 580 t. 4 c.

Farina—
Hamburg, 200 bgs.
Delfszyhl, 250

Glucose—
New York, 500 brls.
Philadelphia, 200

Iron Oxide—
Fiume, 27 cks.

Lead Acetate—
Rotterdam, 13 cks. J.
Hamburg, 12 cs.

Manganese Ore—
Hamburg, 4 bgs.

Nitrate—
New York, 1 cs.
Iquique, 31,180 c. A Cros

Paint—
Malta, 4 kgs.

Painters' Colours—
Antwerp, 6 cks. 6 cs.

Paraffin Scale—
New York, 65 brls.

Phosphates—
Ghent, 500 bgs.

Pitch—
Antwerp, 8 cks.
Bordeaux, 27
Hamburg, 62 brls.

Bleaching Powder—
Bombay, 8 cks.
Boston, 836
Carril, 5
Corunna, 10
Havana, 10
Nantes, 16
New York, 404 10 bxs
Colombo, 2
Ghent, 66
Lisbon, 12

Bone Ash—
Algoa Bay, 5 c. 2 q. £7

Boracic Acid—
Antwerp, 3 t. 5 c. 3 q. £108

Borax—
Nantes, 2 t. 5 c. £60
Antwerp, 2 7 3 q. 81
Adelaide, 1 3 33
Piræus, 6 9
Malaga, 4 3 7
Hamburg, 10 1 272
Melbourne, 2 2 61
Algoa Bay, 1 2 2 32
Rouen, 12 11 370

Carbolic Acid—
Hamburg, 5 t. 4 c. £248
Bombay, 2 18 170
Genoa, 5 1 11

Caustic Soda—
Algiers, 145 dms.
Babia, 220
Barcelona, 440
Bilbao, 50
Boston, 200 28 cks.
Cartagena, Sp., 10
Dunedin, 42
Fiume, 35
Havana, 50
Hiogo, 200
Malaga, 10 6
M. Video, 5
New York, 575 45 bxs.
Odessa, 82
Rosario, 40
San Francisco, 200
Seville, 488 25 kgs.
Sydney, 105
Tarragona, 45 20
Vigo, 25 20 cs.
Yokohama, 130
Alexandria, 2
Algoa Bay, 94
Alicante, 36
Baltimore, 24 48 brls.
Bari, 18
Bombay, 16
Brisbane, 10
B. Ayres, 30
Cartagena, N G., 10
Cienfuegos, 32
Hamburg, 10
La Guayra, 10
Oporto, 28
Para, 30
Pernambuco, 50
Piræus, 75
Rotterdam, 35
Salonica, 48
Sourabaya, 50
Tampico, 80
Valparaiso, 25
Vera Cruz, 73
Wellington, 20

Chemicals *(otherwise undescribed)*
New York, 9 t. 9 c. £238
Larnaca, 2 1 q } 7
Beyrout, 2 2 }
Coquimbo, 4 7
Volo, 5 9
Ancona, 10 18

China Clay—
Calcutta, 4 t.
Bombay, 10
Boston, 494 10 c
New York, 50

Citric Acid—
Corunna, 2 c. £15
Carril, 2 15

Coal Products—
Aniline Colours
Constantinople, 2 cks.
Canada, 2
Oporto, 1 1 cs.
Trieste, 1
Aniline Salts
Piræus, 3 t. 8 c. £175
Constantinople, 2 cs.
Oporto, 1 ck.
Pitch
Cette, 1,112 t.
Galatz, 26 brls.
Ibrail, 60
Tar
Accra, 15 brls.
Bahia, 20
Galatz, 103
Ibrail, 100
Manila, 20 cks.
Monrovia, 15
Philadelphia, 250
Sulina, 40

Cobalt Oxide—
Rotterdam, 4 c. £200

Copperas—
Beyrout, 9 t. 1 c. £15
Calcutta, 23 46

Copper Sulphate—
Odessa, 1 t. 19 c. £29
Bordeaux, 9 7 143
Seville, 1 17 1 q. 29
Nantes, 5 15 80
Lisbon, 137 14 4 2 c85
Halifax, 1 1 2 15
Oporto, 11 11 187
Naples, 15 6 2 239
Marseilles, 352 1 3 5,600
Galatz, 1 3 2 19
Genoa, 50 14 782
Cette, 309 15 1 4,960
Venice, 33 4 2 504
Rouen, 60 12 978
Fiume, 15 4 2 233
Trieste, 10 3 153
Santos, 10 8

Disinfectants—
Bombay, 2 t. £14

Dried Blood—
Dunkirk, 20 t. 5 c. £100
Las Palmas, 10 3 2 q £90
Gr. Canary, 3 4 32

Flowers of Sulphur—
Lisbon, 2 t. 4 c £18

Iron Oxide—
B. Ayres, 1 t. 7 c. 3 q. £17

Lime—
Sierra Leone, 3 t. 3 c. 2 q £8
Warri, 10 cks.

Magnesia—
Punta Arenas, 1 cs.

Magnesium Sulphate—
Bilbao, 14 brls.
Colombo, 20 cks.

Manure—
Valencia, 50 t. 9 c. 1 q. £114
Hamburg, 20 90
Havre, 200 4 605
Antwerp, 20 6 125
Rotterdam, 19 14 61
Cherbourg, 492 10 2 1,508
Rochefort, 600 7 2 1,764
Bordeaux, 775 3 2 2,356

Mineral White—
Lisbon, 3 cks. 8 brls.

Paint—
Canada, 11 brls.
Coronel, 169 cks.
Curacao, 70 kgs.
Galatz, 3 100
Gr. Canary, 6 cs.
Hamburg, 26 18 1 dm.
Ibrail, 3 11 77 5
Kingston, Ja., 120 280
M. Video, 5
San Juan, P.R., 90
Sierra Leone, 2
Sulina, 6
Tripoli, 8
Vera Cruz, 20 30 12
Caibarien, 8
Havre, 7
La Libertad, 100
Malta, 8 bxs. 1
Maranham, 1 60
Matanzas, 2
Para, 8
Rotterdam, 4
Sagua la Grande, 1
St. Domingo, 2

Painters' Colours—
Akassa, 29 kgs.
Bahia, 38 1 cs.
Bombay, 238
B. Ayres, 15 cks.
Constantinople, 490
Coquimbo, 10 brls.
Halifax, 6
Malaga, 1
Maranham, 10 2
Mayaquez, 3
M. Video, 21 168
Para, 20 tcs. 140
St. Domingo, 100
San Juan, P.R., 75
Toronto, 50
Accra, 40
Alexandria, 40
Boston, 4 3
Demerara, 90
Hamburg, 7 1
Hong Kong, 8 tcs.
New York, 4 pkgs.
Tampico, 1
Trieste, 1

Paraffin Wax—
Bahia, 6 cs.
Barcelona, 70 bgs.
Piræus, 2
Venice, 15 60

Phosphorus—
Vera Cruz, 16 c. 2 q. £155
Hong Kong, 2 cs. 26
Kobe, 6 60

Plumbago—
Vigo, 1 ck.

Potashes—
M. Video, 2 t. 4 c. 3 q. £72
La Plata, 10 11

Potassium Bichromate—
Aleppo, 1 t. 4 c. £51
Corunna, 5 11
Vera Cruz, 8 21
Alexandretta, 6 19 275

Potassium Carbonate—
Para, 3 c 1 q. £7

Potassium Chlorate—
New York, 37 t. 7 c. £2,124
Yokohama, 17 10 1,094
Vera Cruz, 3 14
Kalmar, 2 11 140
Malmo, 9 28
Hiogo, 40 2,156
Rotterdam, 16 49
Boston, 2 10 160
Maranham, 1 13 95
Sydney, 8 10 517
Hong Kong, 1 10 98

Potassium Prussiate—
Bilbao, 4 c. £20

Potassium Stannate—
Bombay, 1 t. 7 c. £50

Salt—
Alexandria, 50 t.
Algoa Bay, 5
Amsterdam, 144
Antwerp, 294 14 c.
Barbadoes, 429 15
Bilbao, 18
Bombay, 10
Brisbane, 536 1
Calcutta, 4,089
Cameroons, 40
Chicago, 200
Conakry, 25
Dunedin, 5
Ghent, 90
Gr. Popo, 14 14
Hamburg, 100
Melbourne, 185
Monrovia, 5 10
Montreal, 17 17
New York, 200
Rotterdam, 85
Salt Pond, 11 10
Accra, 10
Akassa, 203
Appam, 2 5
Assinee, 16
B. Ayres, 1 6
Buguma, 25
De Gama, 25
Kansas City, 65
Lagos, 46
Matadi, 23 8
Opobo, 100
Rangoon, 1,676
Winnebah, 5

Saltcake—
Philadelphia, 60 t. 8 c. £120
Antwerp, 250 250

Saltpetre—
Ceara, 1 t. 3 c. 2 q. £28
Larnaca, 2 15 2 64
Iquitos, 4 5

Sheep Dip—
Baltimore, 2 t. 6 c. 2 q. £50
B. Ayres, 18 15 440
Punta Arenas, 60 cks. 360

Silver Nitrate—
Halifax, N. S., 1 q. £26

Soap—
Accra, 150 bxs. 3 cs.
Alexandria, 6
Ambrizette, 108
Antwerp, 17 400
Barbadoes, 1,100
Bathurst, 33
Benin, 100
Boma, 30
Bombay, 1,636 33
B. Ayres, 1
Buguma, 312
Calcutta, 10 500 bdls
Cameroons, 112
Constantinople, 300
Genoa, 95
Kurrachee, 750
Lagos, 134
Lisbon, 6 10
Lome, 20
Malta, 31
Manaos, 150
Mauritius, 184
Melila, 60
N. Orleans, 11
New York, 475 34
Noqui, 25
Old Calabar, 1,000
Opobo, 2,250
Panama, 60
Pernambuco, 1
Gibraltar, 200
Gd. Canary, 230
Guayaquil, 100 6
Piræus, 50 10 20 bdls
Quittah, 40
Rangoon, 704
St. Lucia, 275
San Domingo, 20
Shanghai, 3,376
Sierra Leone, 50
Smyrna 21
Teneriffe, 260
Trinidad, 500 1
Vera Cruz, 2
Victoria, W.C.A, 40
Warri, 150 bxs.
Algoa Bay, 140
Antofagasta, 10
Cape Town, 500
Colon, 2
Coronel, 1
E. London, 50
Matadi, 13
Pt. Elizabeth, 15
Pt. Natal, 50 25
St. Thomas, 1
Singapore, 50
Valparaiso, 8
Winnebah, 25

Soda Alkali—
Ibrail, 35 brls.
Leghorn, 40
Odessa, 300
Piræus, 17

Soda Ash—
Boston, 142 cks. 128 tcs. 1080
B. Ayres, 100 brls.
Callao, 72
Smyrna, 200 18
Algoa Bay, 4
Antwerp, 110
Auckland, 64 cks.
Baltimore, 64 tcs. 161 2,242
Calcutta, 32
Genoa, 100
Havana, 4
Lisbon, 20
Maranham, 10 10
Naples, 20
New York, 135 2,650
Philadelphia, 967
Piræus, 50
Salonica, 150
Sydney, 267
Venice, 400
Wellington, 55

Soda Crystals—
Boston, 476 brls.
Gibraltar, 25
Hong Kong, 10
Malta, 150 cks.
New Glasgow, 5 kgs.
N. Orleans, 140
New York, 56 280
Samarang, 75

Sodium Bicarbonate—
Beyrout, 20 kgs
Boston, 50 100 cks.
Corunna, 5 3
Genoa, 195 86 119 brls.
Odessa, 130
Seville, 50 16
Smyrna, 40
Alexandria, 170
Algoa Bay, 80
Alicante, 30
Barcelona, 150
B. Ayres, 50

Calcutta. 500
Canterbury, 50
Cape Town, 30
Dunedin, 50
Galatz, 60
Ibrail, 120 60
Leghorn, 50 4
Malta, 30 bgs. 20
Marseilles, 17
Napier, 20
New Glasgow, 25
New York, 200
Oporto, 35
Otago, 40
Palermo, 25
Salonica, 20
Sydney, 430
Valencia, 15
Vera Cruz, 25
Wellington, 178

Sodium Chlorate—
New York, 20 kgs.
Antwerp, 120
Hamburg, 20
Rotterdam, 48

Sodium Hyposulphite—
Lisbon, 20 brls.
Mexico, 20 kgs.

Sodium Silicate—
Alicante, 20 brls.
Barcelona, 65 62 cks.
Bilbao, 35 16
Hiogo, 32
Lisbon, 50 10
Oporto, 10
Rotterdam, 15
Seville, 100 30
Tunis, 16
Valencia, 10

Sodium Sulphate—
Lisbon, 20 brls.

Stannous Chloride—
Trinidad, 2 t. 17 c. 3 q. £122

Sulphur—
Boston, 300 t 6 c. £1,157
Halifax, N.S., 1 5 10
Maranham, 19 3 q 6
Callao, 6 3 3 37

Superphosphate—
Hamburg, 150 t. £338
Las Palmas, 16 1 c. 52

Ultramarine—
Yokohama, 6 brls.

Varnish—
Alexandria, 2 cs.
Barcelona, 6 cks.
Calcutta, 10
Genoa, 2 7
Valparaiso, 3 50 dms.
Hamburg, 5 brls.
Leghorn, 1
Naples, 3

White Lead—
Bombay, 2,460 dms.

Zinc Oxide—
Coquimbo, 8 cs.

MANCHESTER.

Week ending February 21st.

Ammonium Sulphate—
Antwerp, 500 bgs.

Chemicals *(otherwise undescribed)*
Accra, qty.
Rotterdam, 14 cks.

Paraffin Wax—
Antwerp, 5 cs. 7 brls.
Treport, 20

Tar—
Antwerp, 64 cks.

HULL.

Week ending February 17th.

Ammonium Sulphate—
Ghent, 1,106 bgs.
Hamburg, 685

Bleaching Powder—
Danzig, 67 cks.

Borax—
Christiania, 2 cs.
Hango, 8 cks.
Rotterdam, 12

Caustic Soda—
Antwerp, 3 cks.
Bari, 20 dms.

Chemicals *(otherwise undescribed)*
Antwerp, 6 pks.
Amsterdam, 16 4 cks. 3 cs.
Bergen, 1
Copenhagen, 3
Copenhagen, 7 6
Drontheim, 341 slbs.
Danzig, 8
Gothenburg, 20 13
Hamburg, 20
Hango, 14 2
Libau, 15
Rotterdam, 50 106

Cottonseed Oil—
Antwerp, 399 c.
Amsterdam, 200
Bremen, 424
Christiansand, 10
Cologne, 400
Copenhagen, 100
Duisberg, 170
Dusseldorf, 100
Hamburg, 8[illegible]4
Rotterdam, 2 673
Trieste, 498

Dyestuffs *(otherwise undescribed)*
Rotterdam, 48 cks.
Reval, 2 1 cs.
Stettin, 1

Guano—
Dunkirk, 100 t.

Linseed Oil—
Bergen, 56 c.
Christiansand, 138
Cologne, 206
Christiania, 321
Drontheim, 42
Gothenburg, 120
Hamburg, 167
Rotterdam, 59
Stavanger, 107

Logwood—
Stettin, 164 bls.

Naphthol—
Libau, 4 cks.

Paint—
Bergen, 2 cks.

Painters' Colours—
Antwerp, 161 cks. 4 cs.
Amsterdam, 5 4 12 pks.
Copenhagen, 1 pkge. 10 dms.
Christiania, 3 48
Dunkirk, 2
Drontheim, 40
Danzig, 11
Fiume, 7
Ghent, 4
Gothenburg, 1 cs. 1
Hamburg, 40
Hango, 1
New York, 93
Rouen, 3
Rotterdam, 6 7 pkgs.
Stettin, 3

Pitch—
Antwerp, 365 t.
Dunkirk, 85
Hango, 2 cs.

Tallow—
Rotterdam, 36 cks.

Tar—
Antwerp, 2 cks.
Christiania, 10
Rotterdam, 2

Toluol—
Hamburg, 26 cks

Varnish—
Amsterdam, 2 cks.
Copenhagen, 1 cs.
Ghent, 1
Gothenburg, 2
Hamburg, 3 3 dms.
Rotterdam, 6 cks.

GLASGOW.

Week ending February 22th.

Ammonium Chloride—
Portland, Me., t. c. £28

Ammonium Sulphate—
Valencia, 250 t. ¼ c. £3,560
Bordeaux, 51 5½ 715

Boracic Acid—
Japan, 1 t. 10 c. £55

Borax—
Rouen, 19½ c. £31
Japan, 1 t. 15¼ 52

Carbolic Acid—
Rotterdam, 25 cks. £80

Caustic Soda—
Hong Kong, 2 t. 18 c. £36
Batavia, 5 16½ 52
New York, 14 14½ 95

Coal Products—
Creosote Oil
Bordeaux. 312 t. £725
Naphtha
Rouen, 27 t. 16¾ c. £430
Pitch
Bombay, 15 t. 6¼ c. £32 10s
Tar
Bombay, 12 t. 4¼ c. £38. 10s.
Batavia, 85
Tar Oil
Hamburg, 100 cks. £58

Coal Tar Products *(otherwise undescribed)*—
Rotterdam, 14 dms. £130

Dyestuffs—
Extracts
Barcelona, 10 t. 9 c. £235
Portland, Me., 4 9¾ 124
Logwood
Barcelona, 5 t. 4¾ c. £50

Lead Acetate—
Bombay, 7 t. 13 c. £117

Linseed Oil—
Perti, 1 t. 11½ c. £44
Singapore, 1 1¾ 26
Calcutta, 1 11½ £37. 13s.
Halifax, 3 9½ 72 11s.

Litharge—
Amsterdam, 4 cks. £15

Manganese—
Rotterdam, 12 t. £100

Manure—
Valencia, 250 t. 7¾ c. £2 300
New York, 74 891

Ochre—
New York, 10 t. 7½ c £172

Paint—
Shanghai, 2 t. 10 c. £40
Calcutta, 5 16 86
M. Video, 2 14 60

Painters' Colours—
Peru, 6 t. 1 c. £75
Rotterdam, 29 cks. 91
W. Indies, 7 4 132
Batavia, 2 14 40

Paraffin Scale—
Amsterdam, 11 t. £240

Paraffin Wax—
Rouen, 5 t 13½ c. £119
Barcelona, 17 4¾ 406
Japan, 30 19½ 656
Bordeaux, 3 6½ 25

Potash Salts—
W. Indies, 3 t. 8 c. £290

Potassium Bichromate—
New York, 18 t. 19 c. £752
Rouen, 2 18¾ 112
Barcelona, 39 3½ 1,552
Japan, 6 8 284
Antwerp, 5 199
" 29
Portland, Me., 4 4¼ 168

Rosin Oil—
Rotterdam, 10 brls. £20

Salt Cake—
Baltimore, 200 t. 7 c. £451

Sheep Dip—
Chili, 6 t. 14 c. £216

Soap—
W. Indies, 11 t. 8 c. £177
New York, 76 2 141

Soda Ash—
Baltimore, 35 t. 1½ c. £115

Sodium Bichromate—
New York, 7 t. 14 c. £252
Rouen, 6 17 220
Barcelona, 7 17 260
Portland, Me., 1 11¾ 52

Sulphuric Acid—
Bombay, 15 t. 12½ c. £98

Tallow—
Rotterdam, 5 t. 5 c. £150

White Lead—
Rotterdam, 1 ck. 1 kg. £7

TYNE.

Week ending February 17th.

Alkali—
Antwerp, 13 t. 2 c.
Rotterdam, 6 7

Alum—
Rotterdam, 10 t. 2 c.

Ammonia (Liquid)—
Pomaron, 14 c.

Ammonium Sulphate—
Hamburg, 20 t. 3 c.
Dunkirk, 20

Antimony—
Christiania, 6 c.
Rotterdam, 5 t.

Bleaching Powder—
Antwerp, 78 t. 16 c.
Copenhagen, 10
Rotterdam, 53 9
Seville, 9 6
Gothenburg, 45 12
Bilbao, 11 3

Caustic Soda—
Hamburg, 4 t. 4 c
Antwerp, 15 13
Copenhagen, 9 1
Barcelona, 19 2
Seville, 124 18
Bilbao, 20 1

Hydrochloric Acid—
Pomaron, 19 c.

Litharge—
Hamburg, 2 t. 1 c.

Magnesia—
Hamburg, 1 c.
Antwerp, 5
Odense, 6

Manure—
Jersey, 87 t. 1 c.
Guernsey, 82 13

Nitric Acid—
Pomaron, 11 c.

Paint—
Antwerp, 1 t 12 c.
Copenhagen, 15
Rotterdam, 10
Trieste, 5 9

Paraffin Wax—
Barcelona, 5 t. 2 c.
Seville, 2 13

Soda—
Aalborg, 7 t. 5 c.
Randers, 12 5
Christiania, 10 1
Rotterdam, 30
Jersey, 20 6
Drontheim, 10 1

Soda Ash—
Copenhagen, 20 t. 7 c.
Gothenburg, 5 3

Sodium Hyposulphite—
Rotterdam, 8 c.

Sodium Silicate—
Seville, 11 t. 2 c.
Bilbao, 6 14

Sulphur—
Antwerp, 5 t.

Tallow—
Hamburg, 1 t. 1 c.

Tar—
Hamburg, 1 t. 3 c.

White Lead—
Hamburg, 9 c.

GOOLE.

Week ending February 14th.

Chemicals *(otherwise undescribed)*
Boulogne, 2 cks.
Rotterdam, 100 2 dms.

Coal Products *(otherwise undes.)*
Boulogne, 3 cs. 32 cks. 8 dms.
Ghent, 7 1
Hamburg, 1 2

Manure—
Boulogne, 247 bgs.
Ghent, 500
Hamburg, 481

Pitch—
Antwerp, 1,096 t.

GRIMSBY.

Week ending February 17th.

Chemicals *(otherwise undescribed)*
Antwerp, 2 cks.
Dieppe, 4 cks. 161 pkgs.
Hamburg, 10 cs. 6 btls.

Coal Products *(otherwise undes.)*
Dieppe, 30 cks. 88 brls.
Hamburg, 100 t.

Dyestuffs *(otherwise undescribed)*
Dieppe, 4 brls. 1 cs.

PRICES CURRENT. WEDNESDAY, February 28th, 1894.

Prepared by Messrs. Higginbottom and Co., 116, Portland Street, Manchester.

The values stated are f.o.r. *at maker's works, or at usual ports of shipment in U.K. The price in different localities may vary.*

	£	s.	d.
Acids:—			
Acetic, 25 °/₀ and 40 °/₀ .. .. per cwt.	7/- & 11/-		
,, Glacial .. .. ,,	50/-		
Arsenic S.G., 2000° .. .. ,,	0	14	6
Fluoric .. .. per lb.	0	0	3¾
Muriatic (Tower Salts), 30° Tw. .. .. .. per bottle	0	0	10
,, (Cylinder), 30° Tw. .. .. ,,	0	3	0
Nitric 80° Tw. .. .. per lb.	0	0	1¾
Nitrous .. .. ,,	0	0	1¾
Oxalic .. .. nett ,,	0	0	3¾
Phosphoric, 1750° .. .. ,,	0	1	2½
Picric .. .. ,,	0	1	0
Sulphuric (fuming 50 °/₀) .. .. per ton	15	10	0
,, (monohydrate) .. .. ,,	5	10	0
,, (Pyrites, 168°) .. .. ,,	3	0	0
,, ,, 150° .. .. ,,	1	5	0
,, (free from arsenic, 145°) .. .. .. ,,	1	6	0
Sulphurous (solution) S.G. 1025 .. .. .. ,,	3	0	0
Tannic (pure) .. .. per lb.	0	1	2
Tartaric .. .. ,,	0	0	11
Arsenic, white powdered .. .. nett per ton	14	0	0
Alum (loose lump) .. .. ,,	5	2	6
Alumina Sulphate (pure) .. .. ,,	5	0	0
Aluminoferric .. .. ,,	2	10	0
Aluminium .. .. per lb.	0	3	0
Ammonia, Anhydrous .. .. ,,	0	1	3
,, ·880=28° .. .. per lb.	0	0	3
,, =24° .. .. ,,	0	0	2¼
,, Carbonate .. .. nett ,,	0	0	3¾
,, Muriate .. .. per ton	25	10	0
,, ,, (sal-ammoniac) 1st & 2nd .. per cwt.	39/- & 37/-		
,, Nitrate .. .. per ton	44	0	0
,, Phosphate .. .. per lb.	0	0	10½
,, Sulphate (grey) London .. .. .. per ton	13	15	0
,, ,, (grey) Hull .. .. ,,	13	15	0
Aniline Oil (pure) .. .. per lb.	0	0	5¾
Aniline Salt ,, ... ,,	0	0	5½
Antimony .. .. per ton	45	10	0
,, (tartar emetic) .. .. per lb.	0	1	0
,, (golden sulphide) .. .. ,,	0	0	10
Barium Chloride .. .. per ton	6	15	0
,, Carbonate (native) .. .. ,,	3	10	0
,, Sulphate (native levigated) .. .. .. ,,	45/- to 75/-		
Bleaching Powder, 35 % .. .. nett ,,	7	10	0
,, Liquor, 7 % .. .. ,,	3	10	0
Bisulphide of Carbon .. .. ,,	11	15	0
Chromium Acetate (crystal) .. .. per lb.	0	0	6
Calcium Chloride .. .. per ton	2	5	0
China Clay (at Runcorn) in bulk .. .. .. ,,	17/6 to 35/-		
Coal Tar Products and Dyes:—			
Alizarine (artificial) 20 % .. .. .. net per lb.	0	0	8
Magenta .. .. ,,	0	3	9
Anthracene, 30 % A, f.o.b. London .. per unit per cwt.	0	1	1
Benzol, 90 % nominal .. .. .. per gallon	0	1	3
,, 50/90 ,, ... ,,	0	1	4
Carbolic Acid (crystallised 40°) .. .. .. per lb.	0	0	6½
,, (crude 60°) .. .. per gallon	0	1	8
Creosote (ordinary) .. .. ,,	0	0	2½
,, (filtered for Lucigen light) .. .. ,,	0	0	3
Crude Naphtha 30 % @ 120° C. .. .. .. ,,	0	0	7
Grease Oils, 22° Tw. .. .. per ton	2	5	0
Pitch, f.o.b. Liverpool or Garston .. .. .. ,,	1	7	0
Solvent Naphtha, 90 % at 160° .. .. .. per gallon	0	1	2½
"Lucigen" and "Wells Oils .. .. ,,	0	0	2½
Copper .. .. per ton	41	0	0
,, Sulphate .. .. ,,	15	10	0
,, Oxide (copper scales) .. .. ,,	40	0	0
Glycerine (crude) .. .. ,,	13	0	0
,, (distilled S.G. 1250°) .. .. ,,	43	0	0
Iodine .. .. nett, per oz.	0	0	9
Iron Sulphate (copperas) .. .. per ton	1	10	0
,, Sulphide (antimony slag) .. .. ,,	2	0	0
Lead (sheet) for cash .. .. ,,	10	12	6
,, Litharge Flake (ex ship) .. .. ,,	13	0	0
,, Acetate (white ,,) .. .. ,,	26	0	0
,, ,, brown ,,) .. .. .. ,,	17	10	0
,, Carbonate (white lead) pure .. .. .. ,,	20	0	0
,, Nitrate .. .. ,,	20	0	0
Lime, Acetate (brown) .. .. per ton	6	10	0
,, ,, (grey) .. .. ,,	10	5	0
Magnesium (ribbon and wire) .. .. per oz.	0	2	3
,, Chloride (ex ship) .. .. per ton	2	10	0
,, Carbonate .. .. per cwt.	1	17	6
,, Hydrate .. .. per ton.	17	0	0
,, Sulphate (Epsom Salts) .. .. .. per ton	2	19	0
Manganese, Sulphate .. .. ,,	17	15	0
,, Borate .. .. per cwt.	2	12	6
,, Ore, 70 % .. .. per ton	4	5	0
Methylated Spirit, 61° O.P. .. .. per gallon	0	2	2
Naphtha (Wood), Solvent .. .. ,,	0	3	9
,, ,, Miscible, 60° O.P .. .. .. ,,	0	5	0
Oils:—			
Cotton-seed .. .. per ton	22	0	0
Linseed .. .. ,,	21	10	0
Petroleum, Russian .. .. per gallon	0	0	3⅝
,, American .. .. ,,	0	0	5½
Phosphorus (yellow) .. .. per lb.	0	2	2
,, (red) .. .. ,,	0	2	9
Potassium (metal) .. .. per oz.	0	3	7
,, Bichromate .. .. nett per lb.	0	0	4½
,, Carbonate, 90% (ex ship) .. .. .. per ton	16	15	0
,, Chlorate .. .. per lb.	0	0	7½
,, Cyanide, 98% .. .. ,,	0	2	0
,, Hydrate (Caustic Potash) 80/85 % .. per ton	21	15	0
,, ,, (Caustic Potash) 75/80 % .. ,,	20	10	0
,, ,, (Caustic Potash) 70/75 % .. ,,	20	0	0
,, Nitrate (refined) .. .. per cwt.	1	2	6
,, Permanganate .. .. per cwt.	3	5	0
,, Prussiate Yellow .. .. per lb.	0	0	10¾
,, Sulphate, 90 % (ex ship) .. .. .. per ton	9	15	0
,, Muriate, 80 % (do.) .. .. .. ,,	8	5	0
Silver (metal) .. .. per oz.	0	2	3¾
,, Nitrate .. .. ,,	0	2	10
Sodium (metal) .. .. per lb.	0	3	4
,, Carb. (refined Soda-ash) 48 % .. nett per ton	5	2	6
,, ,, (Caustic Soda-ash) 48 % . ,, ,,	4	2	6
,, ,, (Carb. Soda-ash) 48% .. .. ,, ,,	4	2	6
,, ,, (Carb. Soda-ash) 58 % .. .. ,, ,,	4	2	6
,, ,, (Soda Crystals) .. .. .. ,, ,,	3	0	0
,, Acetate (ex-ship) .. .. ,,	14	15	0
,, Arseniate, 45 % .. .. ,,	11	0	0
,, Chlorate .. .. per lb.	0	0	8¼
,, Borate (Borax) .. .. net, per ton.	28	0	0
,, Bichromate .. .. ,, per lb.	0	0	3¾
,, Hydrate (77 % Caustic Soda) (f.o.b.) net pr. ton	10	15	0
,, ,, (74 % Caustic Soda) ,, ,, ,,	10	5	0
,, ,, (70 % Caustic Soda) ,, ,, ,,	9	5	0
,, ,, (60 % Caustic Soda) .. ,, ,,	8	5	0
,, ,, (60 % Caustic Soda, cream) (f.o.b.) ,,	8	0	0
,, Bicarbonate .. .. ,,	6	15	0
,, Hyposulphite .. .. ,,	5	15	0
,, Manganate, 30% .. .. ,,	16	0	0
,, Nitrate (95 %) ex-ship Liverpool .. .. per cwt.	0	9	4½
,, Nitrite, 98 % .. .. per ton	29	10	0
,, Phosphate .. .. ,,	15	0	0
,, Silicate (glass) .. .. per ton	5	7	6
,, ,, (liquid, 100° Tw.) .. .. .. ,,	4	5	0
,, Stannate, 40 % .. .. per cwt.	3	0	0
,, Sulphate (Salt-cake) .. .. per ton.	0	17	6
,, ,, (Glauber's Salts) .. .. ,,	1	5	0
,, Sulphide .. .. ,,	8	10	0
,, Sulphite .. .. ,,	5	15	0
Strontium Hydrate, 100% .. .. ,,	8	10	0
Sulphocyanide Ammonium, 95 % .. .. per lb.	0	0	7½
,, Barium, 95 % .. .. ,,	0	0	5
,, Potassium .. .. ,,	0	0	7½
Sulphur (Flowers) .. .. per ton.	7	15	0
,, (Roll Brimstone) .. .. ,,	6	0	0
,, Brimstone: Best Quality .. .. .. ,,	4	0	0
Superphosphate of Lime (26%) .. .. ,,	2	7	6
Tallow .. .. ,,	28	0	0
Tin (English Ingots) .. .. ,,	72	0	0
Tin Crystals .. .. per lb.	0	0	6¾
Zinc (Spelter) .. .. per ton	15	10	0
,, Chloride (solution, 96° Tw.) .. .. .. ,,	5	15	0

THE

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AND

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ADVERTISEMENTS.

NTED, Small Engine complete with pump for Carbonic Acid Gas.—Address, B 138, *Chemical Trade Journal* Office, er.

SALE, in the South of England, all the Iron rk in connection with 20 Pyrites Furnaces, comprising the Cast Iron earing, and Fire Bars, Sliding Doors, Dampers, Wrought Iron Uprights, etc., complete and equal to new, made by the Widnes Foundry Company. ce and further particulars apply A.Z., *Chemical Trade Journal* Office, er.

JATION WANTED by expert Chemist, Fellow he Institute of Chemistry, has managed for some years Chemical Works, planning and erecting Plant for general Chemical and Manure Works; monials from past employers, moderate salary, if required could start ely.—J., care of A. Benton, Mangotsfield, near Bristol.

KHEATON COLOUR WORKS, near Hudders- d. Re John Dawson & Co., Ltd. Highly important to Manufacturing Aniline Colour Makers, Dyers, and others.
ON and TAYLOR have received instructions to Sell by Auction on y, Thursday, and Friday, March 14, 15, and 16, at the above Works, ng each day at 11-30 o'clock, and continue without intermission, the Whole ensive. Costly, and Modern ANILINE COLOUR MANUFACTURING including complete appliances for producing yellows, bi-nitro, chrysoidine, or, Bismarck brown, fast red, rosaniline, acid magenta, blues. magenta nd magenta, etc.; hydraulic presses and pumps, hydro-extractors, engines, steam boiler, leather belting. the whole of the main and hafting, extensive steam and water piping, contents of mechanics' ly fittings of the laboratories, Spencer's 10 ton waggon weighing machine, ge cast-iron reserve water cistern, office and warehouse furniture, trade d effects. Catalogues on and after March 5th. View days Monday and March 12 and 13, from 10 to 4. The works are within three miles of eld, and adjoin the Kirkheaton Station.—Auctioneer's offices, 6, High- ddersfield.

Notices.

ommunications for the *Chemical Trade Journal* should be d, and Cheques and Post Office Orders made payable to—

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isements of Situations Wanted are inserted at one-half the tes when prepaid, viz.:—

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Each additional 10 words ..... 0s. 3d.

CURRENT TOPICS.

THE PURITY OF FOODSTUFFS.

THE apathy of the general public on behalf of their own welfare is very apparent in many directions, but particularly so in connection with the working of the Food and Drugs Act.

The truth of this is strikingly evidenced by the fact that during the past year not one single application for an analytical examination of any kind of foodstuff has been made to the City of London analyst. To say who is to blame for the ignorance of the public as to their rights under this Act would be a difficult thing. Certainly the public themselves are, in a large measure, on account of their imperturbable indifference. Fortunately, many of the authorities in our large cities recognise that they exist partly to look after the well-being of their fellow burghers or citizens, and therefore take action when they think necessary. It is surprising, however, how limited is the interest taken in any attempt such as that recently made in Manchester to prevent the amount of water in butter assuming fraudulent proportions. Very few outside those directly affected seemed to take any practical interest in the movement, or afford it their support.

To all appearances the trade got rather the best of the arguments in the cases which were tried recently, and no doubt many have secretly plumed themselves upon the satisfactory way the matter has been disposed of. That is to say, satisfactory so far as the vendor is concerned.

We are pleased, however, to find that the matter has not as yet been finally placed in limbo. The Associated Chambers of Agriculture, at a meeting held this week under the presidency of Mr. Channing, M.P., have decided to endeavour to get a Select Committee of the House of Commons appointed, to inquire into the sale of fraudulent substitutes for butter, and the whole question of the adulteration of dairy produce. The meeting also seemed much of the opinion that in view of the result of the action taken in Manchester, the makers of laws and Acts should be asked to give a definition of pure butter. In connection with the amount of water in Irish butter in particular, however, the action of the Manchester authorities has been most useful, in that it will most probably not effect an improvement in the supply of that city only. Already the prosecutions have led to the taking of steps which will affect the whole of the butter made in Ireland for export. The Munster Dairy School at Cork, has actually appointed a committee of men, competent on account of their knowledge of butter-making, and scientific acquirements, to thoroughly investigate the question of the effect of using hot pickle, and what may safely be considered a normal percentage of water in butter. Experiments sufficiently comprehensive to be conclusive are to be instituted, and it augurs well when the prevailing feeling is that it is desirable to improve the butter-making process so as to obtain a minimum amount of water in the butter.

THE PETROLEUM ACT.

Last week we referred to the scanty acquaintance of users and makers of preparations containing inflammable solvents. The Act regulating the storage, sale, or transit of petroleum includes under that heading, benzol, gasoline, benzine, peat, shale, and schist oils, in addition to petroleum in the ordinary acceptance of the word. It does not say anything about preparations containing any of these. It certainly may be argued, however, that a mixture containing over 80 per cent. of petroleum spirit is more of the nature of petroleum than anything else. It is an open question whether such a product as rubber solution, being almost always securely packed, is not less dangerous than burning oils which are only just above the legal minimum flash-point of 73°F. The storage of large quantities of rubber solution and such like, when prepared with very inflammable solvents, could however be attended with very serious consequences under certain circumstances. The Act anticipates this contingency by providing for the making of Orders in Council to apply to special substances. The Birmingham magistrates presumably acted upon such an Order, but the simplest course to the manufacturer is to ignore legal niceties and comply with the law by obtaining a licence.

Our Book Shelf.

* * * * * *

WE notice our reviews of "Darstellung von Chlor und Salzsäure" and another German work, have been "lifted" in their entirety into *Kuhlow's Review* of 28th ult. Since the books were published in the same city as the *Review*, and in the German tongue, we suppose we ought to appreciate this testimony to the impartiality and equity of our criticisms, although reproduced without any acknowledgment of their source of origin.—[Ed. *C. T. J.*]

* * * * * *

Agenda du Chemiste. By Messieurs. Salet Girad, Pabst and Griner. 516 pp. with index. Paris: Hachett et Cie. 1894.

The current issue of this annual is quite up to the standard of its predecessors. Additions have been made excellent in themselves, though they have in certain cases supplanted matter which many chemists will be loth to lose. Among the additions is a collection of tables connected with thermo-chemistry, comprising much of Berthelot's own work. The section devoted to the analysis of fatty matters has also been thoroughly revised. A supplement has also been added, which in addition to other matters contains an article by Moisson, on the formation of diamonds, and an article on artificial perfumes. A laboratory apparatus is also described for determining the boiling point of alcohol.

Altogether the annual has been well brought up to date, and constitutes a most valuable handbook of general reference for all classes of chemists and those engaged in analytical laboratories.

Catalogue of Chemical Apparatus. 295 pp. With Index. Illustrated. New York: Richards and Co. 1893.

This catalogue comprises a most useful collection of all kinds of apparatus used in connection with chemistry and physics, being neatly bound in green cloth boards, and profusely illustrated with considerably over 3,000 woodcuts. It is divided into three parts. Part I. is devoted to general articles for laboratory use, including balances, thermometers, and gas-heating apparatus. In this section one feature is worthy of special notice, and that is the collection of sections of different kinds of glass tubing kept in stock. Thirty-seven sections of ordinary, combustion, barometer, capillary, and thermometer tubing are represented. Part II. comprises a list of a number of special pieces of apparatus for gas and air analysis, extractions, filtering, iron and steel, milk, and agricultural analysis. The last section, Part III., consists of a collection of apparatus for lecture experiments, mineral and crystallographic specimens, etc. A full index completes a well-arranged and comprehensive catalogue, commendable to the notice of all chemists, metallurgists, and assayers.

The Universal Electrical Directory, 886 pp. Londo
Alabaster Gatehouse and Co., 1894. 4s.

This Directory gives a list of all electricians and names of th
gaged in trades related to electricity and magnetism at home, in
the Colonies, America, and on the Continent.

The first part contains a table of the Central Electric I
Stations in this country, and the towns in which electric
schemes are on foot. It also gives the officers of the Inst
Electrical Engineers and the local agents abroad; the member
Electrical Section of the London Chamber of Commerce, a
Fellows and Associates of the Chartered Institute of Patent Age
the British and other sections, in addition to the alphabetical
electricians, there is an alphabetical list of trades. The whole i
got up in red cloth boards, well printed. English, Frenc
German headings are given in all the foreign trades' lists,
evidence to the care and thoughtfulness with which the Direct
been prepared throughout.

THE BERLIN STEARIN CANDLE INDUST

IN speaking of this industry, the Berlin Chamber of Commer
in its report for last year:—"We cannot chronicle any
improvements in the industry which have so long been
Judging from the pecuniary results the last year has been amo
worst of the present decade. The cause undoubtedly springs fr
increased competition among the few German works in this li
few of the more recent firms, though of little significance, hav
large extent hastened on the fall of prices by their attempt to
the old-established works.

As per usual in this industry, the consumption during the spr
summer months is of a hand-to-mouth character, and the
the orders have to be manufactured and executed during the
months. The difficulty to get through this extra work has been
increased by the new labour laws restricting the hours of labour.

The demand for stearine candles varies according to the
more than half the production being consumed from Septen
December. Such variations neceesitate night shifts.

Owing to the fashion in this industry very little can be done
spring ready for the autumn demand, and few firms can m
by an increase in their plant.

Whilst on the one hand the working classes do not appreci
changes which the Legislature have made for them; on the oth
it has increased the burdens of the producer, and so caused a
depression and discontentment among both classes. To add
fact that last year two well-managed concerns had to stop,
state that the Stettin Candle and Soap Company have only be
to declare a two per cent. dividend, and that the Ammonia-S
Candle Company have lost £9,000. in the last year.

None of the international conventions have improved the in
Astonishment has also been expressed, due to the decrease in th
upon the bye-product, olein, without consulting any of the
interested. This product has been reduced 1s. per 220 lbs
importance of this will be grasped when it is stated that one
oldest firms turns out from 2,500 to 3,000 tons.

The McKinley Bill has had little effect upon the industry,
America cannot compete in the market against the larger an
established centres as Belgium and the Netherlands, and whic
moreover imposed no duty upon the raw materials; such c
must accordingly reap the greater advantage by the decrease
duty in Germany on olein.

Neutral Scarlet.—Among the large number of basic d
there has not yet existed a basic scarlet, and in its stead reco
been had to mixtures of reds with yellows. For many purpose
ever, especially where mixed stuffs—for instance, half silk—hav
dyed, or in cotton printing where steaming is required, a
neutral scarlet would be welcome. With this view, Messrs. Le
and Co. have introduced a neutral scarlet. It is dyed in the sa
as all the other dyestuffs of basic nature, and can therefore be
mixing with same. Its fastness to washing is like that of safra

Water Pollution in Cheshire.—At the last meeting
Altrincham Union Rural Sanitary Authority, a letter was read f
Knutsford Water Company dealing with the reports of Dr. F
medical officer for Mid-Cheshire, and also of the Macclesfiel
Sanitary Authority. The Company were quite willing to join w
Authority in preventing pollution in the upper reaches of the
So far as they were concerned, the filtration of the water was r
as perfect as possible, and the Company were going to an exp
£500. in having the reservoir at Norbury Booths thoroughly cl
It was decided to write the Macclesfield Authority and also the
Local Board asking them to prevent the pollution of the stream
several districts.

Legal Intelligence.

MANCHESTER ASSIZES.

NISI PRIUS COURT.

(Before Mr. Justice Day and a Special Jury.)

'D OTHERS *v.* THE LANCASHIRE AND YORKSHIRE RAILWAY COMPANY.

case the plaintiffs, W. A. Oddy, Thomas Rowley, Henry nshaw, and John Coulter, sought to recover damages from the re and Yorkshire Railway Company for the non-delivery of a of sulphide of zinc. Mr. Parry appeared for the plaintiffs, and ıdant company was represented by Mr. M'Keand. In 1889 ıdants had in one of their warehouses 17 casks of sulphide of nging to Oddy. The other plaintiffs purchased the stuff from ıd the railway company were asked to deliver it to them They six casks, but the plaintiffs had not obtained delivery of the and five of them were said to have been lost. At the sug- f the judge it was arranged that a chemical manufacturer e called in to assess the value of the sulphide of zinc and give ɔn as to the amount of damages the plaintiffs ought to receive. ıdants had paid £35. 14s 11d. into court in satisfaction of the

EVANS *v.* THE KREMNOLITE CO.

tion was brought ro recover the sum of £165., alleged to be due done in erecting machinery by which the defendants might ure a compound for the purification of sewage. The machiney l been paid for, and the defendants now paid £60. into the work done, and pleaded that the plaintiff was not entitled r more Upon this issue the judge was asked to decide, but ırse of the evidence for the plaintiff, counsel arrived at an it under which the defendants consented to judgment against £100.

Ship Canal & Chemical Trade.

A CONSIGNMENT OF OIL CAKES.

f the largest vessels which has arrived at Salford Docks during week is the "Black Prince." The vessel, though carrying its chief cargo, also brings an important consignment of oil The vessel is not so large as the previous cotton ships which ed this port, and she only draws 14ft. 6in. of water. The ɔmposed of 3,346 bales of cotton, 2,000 oil cakes, and 60 wine. She left New Orleans on the 7th of February, and was thed in the Salford Docks by eleven o'clock last Thursday The gross tonnage is 1,480, and the net tonnage 960 The ɔ the Canal was accomplished practically without any damage ıe. The unloading commenced at once.

AN INSTANCE OF EXPEDITION.

lue of the Ship Canal as a means of transit between points in Great ill depend largely upon the quickness with which the transi- ɔds can be performed. This week has brought a promising ɔf what can be done. Messrs. Burns' s.s. "Grampus," which ɔw on Tuesday afternoon last at 4 o'clock, got alongside the Pomona Docks on Wednesday afternoon at 3.50, and the cargo elivered in the city by 10 a.m on Thursday. This is smart l shows what expedition can be given *viâ* the Ship Canal.

E ADVANTAGES OF SUGAR BEET CULTIVATION.

eresting account of the development of the beet sugar industry ɔsnia is given in a report to the Foreign Office by Consul General A sugar factory established by the local government at the Brod-Serajevo railway, was opened at the beginning of Only crushed sugar has been hitherto produced, but now a as been added, and during the coming season loaf sugar will oduced. The beets are grown in the surrounding districts, e raw materials, including the coal, are also obtained locally. e past year 2,559 tons of sugar were produced. Great diffi- experienced at first in introducing the cultivation of the beet e native peasants, and it was only effected by perseverance rt of the authorities and at a considerable cost to the Govern- nplements were distributed gratis, instruction was imparted agriculturists, and promises of purchase at remunerative rates e to the growers. In spite of all these inducements, how- 420 acres were sown with beet the first year. In the follow- 1892, the extent of land sown had risen to 2,125 acres, and e past year no less than 6,672 acres were sown. More than was paid last season for the purchase of beets. Another benefit to the country from the introduction of this crop will be feeding and fattening of cattle. In this the Government is also setting an example. About 50 per cent. of the beets used at the factory are returned to the peasants in the form of parings and refuse, and make an excellent fodder for cattle. Stall-feeding and fattening of cattle for the market have never been practised in Bosnia and the Herzegovina, but will now probably, through the cultivation of the beet be gradually resorted to. Manuring of the fields is also very little practised, but the absolute necessity of so doing to obtain heavy beet crops will be recognised by the peasants and necessitate the stall-feeding of cattle, which will not only be another source of profit to the agriculturist, but will tend likewise to improve the breed of cattle by inculcating the habit of giving them more care and better food during the winter months than has hitherto been the custom. Finally, the establishment of this sugar factory will benefit the revenue. The excise on sugar is 18s. 4d. per quintal, and the total amount paid to the local exchequer last year was £23,800.

EXPORTS OF ALKALI AND BLEACH.

THE following figures, which are taken from the official foreign and colonial statistics of the United Kingdom, give the amount and value of alkali and bleaching materials shipped to the undermentioned countries during the month of January, 1894, as compared with the same month of 1893 :—

ALKALI.

Port.	1893.	1894.	1893.	1894.
	Cwts.	Cwts.	£	£
Russia	6,262	7,978	2,703	3,303
Sweden and Norway	7,858	4,481	2,234	1,268
Germany	3,714	5,619	1,394	2,267
Holland	2,181	4,237	775	1,244
France	7,304	2,209	3,161	919
Spain and Canaries	28,366	30,958	13,142	14,268
Italy	15,570	17,782	6,115	6,849
United States	392,351	300,542	127,026	76,427
Australasia	6,472	14,265	2,487	5,869
British North America	14,339	10,685	4,419	3,193
Other countries	67,886	85,056	25,733	30,256
Total	552,303	483,812	189,189	145,863

BLEACHING POWDER, ETC.

Port.	1893.	1894.	1893.	1894.
	Cwts.	Cwts.	£	£
United States	78,129	65,102	33,230	26,353
Other countries	28,719	29,205	11,209	11,383
Total	106,848	94,307	44,439	37,736

IMPORTS AND EXPORTS FOR FEBRUARY.

THE Board of Trade returns for the past month are again pleasingly satisfactory. In chemicals and oils in particular, however, there is nothing very remarkable. The decline in the exports of alkali and bleaching materials is most probably due to the unsettled state of the U.S.A. tariff.

IMPORTS OF FOREIGN AND COLONIAL PRODUCE.

ARTICLES.	Quantities. 1893.	Quantities. 1894.
Margarine ..... Cwt.	120,482	102,820
Copper ore and regulus ..... Tons.	9,674	8,061
Hides—dry and wet ..... Cwt.	55,781	87,172
Nitrate of soda ..... Tons.	5,703	13,079
Tallow and stearine ..... Cwt.	56,219	80,658
Tin ..... Cwt.	67,029	44,565

EXPORTS OF BRITISH AND IRISH MANUFACTURES.

ARTICLES.	Quantities. 1893.	Quantities. 1894.
Alkali ..... Cwt.	492,928	429,758
Cement ..... Tons.	27,155	26,822
Coal and Coke ..... Tons.	1,914,401	2,389,515
Copper—all kinds ..... Cwt	83,738	87,812
Iron and Steel ..... Tons.	191,223	173,861
Chemical Manures ..... Tons.	33,426	33,839
Oils—seed ..... Tons.	5,041	5,888
Salt ..... Tons.	31,670	42,210

THE MERSEY AND IRWELL JOINT COMMITTEE.

THE monthly meeting of this committee was held at the offices, Mosley-street, Manchester, on Monday last, Mr. T. W. Killick in the chair. The Chief Inspector (Mr R. A. Tatton) presented a report showing that most of the local authorities, whose extensions of time had elapsed, were waiting the decision of the Local Government Board in their respective cases. On this account,

THE CONSULTING SUB-COMMITTEE

recommended in their report that one month be given to the Middleton Corporation, Marple Local Board, Aspull Local Board, and Ramsbottom Local Board. These recommendations were adopted, and the case of the Bolton R.S.A adjourned for one month.

The Clerk (Mr. Hulton) read a report from the Local Government Board upon the position of the schemes of the various authorities under consideration.

After some discussion as to the satisfactoriness of this report, Mr. Alderman Walmsley moved, and Dr. Hewitt seconded, a resolution to the effect that a deputation of as many members of the committee as could attend should wait upon the President of the Local Government Board with a view of representing to him the slow progress being made in the construction of sewage works owing to the delay on the part of the Local Government Board in giving their sanction.

Mr. Haslam suggested that as they had only a few more of these cases to deal with, such a deputation was not necessary. Mr. Tatton stated that eight or ten authorities had yet to submit plans. Alderman Walmsley asked if the other 60 or 62 authorities in the watershed of the Irwell had done all that was necessary to satisfy the committee.

The Chairman thought this was too large a question for the moment. The matter before the meeting was whether they would send a deputation to the Local Government Board.

After some discussion it was decided to postpone the matter.

THE CHEMICAL SUB-COMMITTEE

reported that 18 cases had been before them, and their recommendations were adopted, as follow:—

J. Jackson, Harpurhey.—There has been delay on the part of this manufacturer in carrying out works, owing to the premises being badly situated. The contracts have, however, been let, and two months' extension of time was allowed.

I. F. Hill and Co.—Satisfactory progress has been made by this firm in carrying out works, and an extension of time for two months was given them.

Melland and Coward.—This firm wrote pointing out that, owing to their not possessing any land, they are having to sink tanks beneath their works, and asked for an extension of time to enable them to do this without the stoppage of the whole of their machinery. Under these circumstances an extension of time for three months was given; and they were to be informed that the works for the treatment of their effluent must be completed by the end of that period.

S. Barlow and Co., Middleton.—An extension of time for one month was given to this firm.

Bury Paper Making Company.—This firm stated that the plans for the construction of works for purifying their effluent are in the hands of the contractor, and an extension of time for one month was granted.

R. Schofield, Rochdale.—The effluent from this manufacturer's works now goes into the Rochdale sewers.

W. Broadbent and Sons.—This firm are putting down new tanks to replace their old ones, and were allowed one month's extension of time.

R. Ashworth, Waterfoot and Rawtenstall.—The Chief Inspector reported that this manufacturer had constructed large wooden tanks and filters at Waterfoot, but had not yet commenced to use them, as he intends to couple up both works. One month's extension of time in each case was allowed.

J. Horrocks and Co.—The further consideration of this case was adjourned for one month.

J. Barlow, Whitworth.—An extension of time for two months was granted in this case.

Hardman Brothers.—This firm have not yet taken over their new works, but they hope to do so in June. The consideration of their case was therefore adjourned.

S. Hope and Son.—This firm have made arrangements with the Manchester Corporation for their effluent to go into the public sewers.

Ashton Paint and Varnish Company.—This Company have not yet begun to treat their effluent, but as the sub-committee considered that they were anxious to do what is necessary, an extension of time for two months was given them.

N. Ramsden and Co., Firwood and Ainsworth.—When Mr. Ramsden appeared before the Joint Committee on the 22nd of January, he stated that at the time the Sub-Inspector took the sample of the effluent which was then produced, he did not leave a duplicate of the same at the works. Mr. Tatton reported that fresh samples had now been taken, and duplicates left with the firm; and the Sub-Committee recommended that they be asked to attend the next meeting Joint Committee.

J. W. Marshall and Co., Bolton.—An extension of time f month was granted to this firm.

T. Wilkinson, Little Lever.—This manufacturer is now m satisfactory progress. An extension of time for one month was all

Bibby and Baron.—This firm have now come to an arrang with the representatives of Lord Derby with regard to land for Plans have also been prepared, and the construction of works commenced at once. Two months further time was allowed th complete the same

Grove Mill Paper Company.—This firm are now treating their waters

Manufacturing Pollution in Derbyshire.—Mr. Tatton reported in reply to his circular-letter addressed to the manufacturers in D shire, he had received assurances in nearly all cases that works s be completed within three months.

J. Leach, Littleborough.—This case, which was left from th meeting pending the undertaking of the manufacturer to remo sluice valve, was considered, and the valve being yet in positi was decided that proceedings should be instituted.

CHEMICAL REPORT ON EFFLUENTS.

A report on 34 effluents from sewage works was presented by S E. Roscoe's chemist, showing the oxidisable organic matter effluents, represented by the amount of oxygen absorbed from ar solution of potassium permanganate No statement was made, ever, as to the temperature or as to whether the test was of 15 duration or three hours.—The Chairman stated that 63% of the were satisfactory as compared with the report in January, 1893, 32% only were so. The satisfactory class included effluents cont from 0·1 up to 0·55 parts. The unsatisfactory effluents ranged 0·65 parts to 3·83. Five of these did not exceed 1·55 parts, whi four most offensive were Salford, 3·06 parts, Atherton Local B 3·64, and the two sewage works of the Bolton Corporation with and 3·83.

Dr. Hewitt hoped that these reports would be more frequent i future, as he had always held that the real work of the committee begin when they had to see that all the works they had brough operation were being properly and efficiently conducted —Mr. man Walmsley said he did not think the report was of any value only one sample was taken, and no particulars as to flood, droug other conditions given.—The report was eventually adopted, an proceedings terminated.

QUANTITATIVE WORK FOR BEGINNERS CHEMISTRY.

By W. A. Noyes.

IN most chemical laboratories the work which is given to begin chiefly or altogether of a qualitative nature. In many schoo colleges the work begins with a study of the qualitative propert a series of chemical elements and their compounds, chiefly of gas metalloids. In other schools the students begin at once with the of qualitative analysis. A large majority of students never get b this first stage, and it is safe to say that they acquire but a very knowledge of real chemical work. The work which is done in tific and technical laboratories and in chemical factories consists entirely of quantitative analyses or of the preparation of chemica stances carried out in an accurate quantitative manner. Indee are accustomed to say that the science of chemistry began with t of the balance, and we all recognise the extreme importance of q tative relations in most of our chemical work.

We must keep in view several objects in selecting the laboratory for beginners. First, they should become personally acquainted the appearance and properties of a number of the chemical ele and their compounds. The acquisition of a large amount of know of this kind is desirable, but we may easily make the mistake deavouring to impart too much A few topics exhaustively st will prove of greater value than a superficial study of a great This is especially true of qualitative tests with solutions. A beg can apply a great many such tests in a comparatively short time unless his powers of discrimination and of memory are very unus will retain only a confused recollection of his work. A second is to secure a training in delicate and accurate manipulation and i use of different forms of apparatus. A third object is to fix i mind of the student knowledge which may have been impe acquired by watching the demonstrations of a lecturer or by the of a text-book. Some teachers carry this thought so far that they to imply that no knowledge of a topic can be really acquired student until he has demonstrated it by personal experiment. In I have heard some teachers contend that they would not allow

n the laboratory, but would have their students acquire all of knowledge at first hand by their own experiments. Such a le if logically carried out could never take the student beyond ge of alchemy, for the student of to-day is no better able to p a science of chemistry for himself than was the old alchemist. you direct his experiments in such a way as to develop and te the science as it is now known, you have forsaken the le just as much as though a text-book were used.

ems to me that such views arise from a mistaken conception of l nature and purpose of laboratory instruction. After all, the d of personal experiment is a very slow and laborious method of ng knowledge. Only a very small fraction of our knowledge of ce, if that knowledge of is by any means adequate, has been d in that way. It is true that the method is absolutely essential inners, and I do not think that any of us get beyond the need The man who never uses a balance or handles a test tube will very long be a strong factor in the advancement of chemical . But the method of laboratory instruction is essential, not e knowledge can not be acquired in other ways, but because at rt the imagination of the student is deficient, and it is only by of personal experiments of his own that he can acquire the to understand and appreciate the experimental work of others. emory is also deficient, and the personal work on a subject may reat value for that reason as well. But the things which we endeavour to secure in laboratory instruction are, first, such an tance with experimental methods as shall enable the student to hly grasp the solid experimental basis of the science and give e mental habit of referring everything back to the rigid nental test ; and second, the ability to do accurate and ndent experimental work himself. No student can demonstrate self more than an infinitesimal number of experimental facts in ison with the vast array of such material which has been lated.

e principles which I have suggested are correct, we should our to secure as thorough a knowledge as possible of experi- methods, and neatness and accuracy in laboratory technique han the illustration of as large a number of details as possible. esults can be secured more fully by a series of quantitative ns than by a large amount of merely qualitative work. I do not y this that qualitative work is not necessary and desirable as t for the beginners, especially, quantitative work is of more value. r to make my meaning more clear I will give a few illustrations the earliest problems that I give is the determination of the of a litre of hydrogen essentially by Regnault's method. A ntaining about one-half a litre and bearing a three-way cock is ed with a Bunsen pump and the residual pressure determined manometer. The bulb is then weighed, using a sealed counter- of nearly the same volume, then filled with hydrogen, ture and pressure noted, and weighed again. The results d by careful work are usually one or two per cent too high A determination of the weight of oxygen gives results with a far percentage error. The determination of the amount of oxygen sium chlorate by heating about a gram of the salt in a small n crucible placed within a second gives a good illustration of v of constant proportion. The preparation of potassium rate can be made to furnish a considerable amount of valuable ion The capacity of a bottle holding about two litres is de- d, a calculation of the amount of potassium chlorate required to gen enough to fill it when only the first stage of the reaction is made and the experiment performed. Then the potassium and potassium perchlorate are separated, and the is purified by crystallization. A study of the ive reactions which distinguish potassium chloride, m chlorate and potassium perchlorate is made and ts to establish the purity of the last are applied. a determination of the amount of oxygen in potassium perch- ves, in connection with the last problem, an illustration of the nuliple proportion. I will give but one further illustration— rmination of the relative atomic weights of hydrogen, chlorine, er. A known weight of pure silver is dissolved in nitric acid, ated with hydrochloric acid and the silver chloride weighed on a crucible. In a dilute hydrochloric acid the amount of n is determined by allowing 10 cc. of it to act on an excess of n appropriate apparatus, the hydrogen being measured in a gas accurate corrections being made for temperature, pressure, and pressure. In another known volume of the same acid the is determined by precipitation with silver nitrate.

careful selection of problems it is possible to give the student, a reasonable time, practice in the careful use of the more forms of chemical apparatus. In other words the student can beginning at working at a chemist works instead of doing more than play with bottles and test tubes. Among other ges of this method of instruction is the fact that the results which are obtained are usually a fairly good criterion by which to judge of the care with which the student has worked, and the student soon finds that careless work will not give good quantitative results. Also the student dwells long enough on a problem so that many details become thoroughly fixed—a result that is rarely obtained in qualitative work, except by means of many repetitions I am aware that there are some practical difficulties in the way of carrying out the methods which I propose, especially in the matter of apparatus, but these difficulties are not nearly so great as they appear at first sight, and I am sure that they are not greater than those which have been overcome in many of our physical laboratories.—*Jour. Am. Chem. Soc.*

THE INSTITUTE OF CHEMISTRY.

THE Eighth Annual General Meeting of the Institute of Chemistry of Great Britain and Ireland was held on Thursday, March 1st at the offices of the Institute, 30, Bloomsbury-square, London.

The annual accounts and the report of the Council for the past year were received, and Dr. W. A. Tilden, the retiring president, delivered an address, in which he referred to the progress of the Institute during the three years of his presidency.

The officers and Council for the ensuing session were elected, Dr. W. J. Russell, of St. Bartholomew's Hospital, succeeding Dr. Tilden as president of the Institute.

Notwithstanding the fact that the Institute has to lament the loss of eight members by death and fourteen from other causes, the number of members has increased by nineteen during the past year, and ninety-eight students have been admitted.

The register now contains 738 fellows, 109 associates, and 207 students.

In accordance with the notice sent to members on 19th February, Mr. W. Thomson moved: "That the words 'in any one or more of the universities or chartered or incorporated colleges or schools approved by the Council' be deleted from the regulations for admission to membership, and that the further necessary alterations be made in other paragraphs consequent upon this change."

The discussion of this question was objected to by Mr. Carteigh, on the ground that according to the Charter only the Council were competent to discuss or alter bye-laws, and the President, with a surprising lack of knowledge as to the reading of the charter and bye-laws, ruled that the discussion should not take place.

Dr. Alder Wright, however, pointed out that according to the bye-laws anything of interest to the Institute might be discussed at a general meeting, and the President said under those circumstances he was willing that the discussion should take place Mr. Carteigh, however, insisted that as the President had already given his ruling, the matter was at an end ; and the President then affirmed his original ruling, adding that if the matter came to a vote he held proxies enough to swamp the supporters of the motion. The meeting, therefore, terminated, and those members who had made an effort to attend had their trouble for nothing. The overpowering number of proxies in support of the Council amounted, it subsequently transpired, to about seven, not a very large majority out of almost as many hundred votes.

THE GAS SUPPLY OF LONDON.

THE quality of the gas supplied to the City of London for the week ending February 24th, 1894, was good. According to the report of Mr. W. J. Dibdin, chemist and superintendent gas examiner to the London County Council, the tests made at the various testing stations showed no deficiencies in illuminating power. The following figures have been prepared from the report, and show the average composition of the gas calculated on the mean test :—

Company.	No. of districts tested.	Illuminating power (in stand. sperm candles). Mean average.	Sulphur. Grains in 100 cb. ft. Mean average.	Ammonia. Grains in 100 cb. ft. Mean average.	Sulphuretted hydrogen.
Gas Light and Coke Co.	13	16·26	11·49	0·22	Nil.
South Metropolitan Gas Co.	5	16·52	11·12	0·28	Nil.
Commercial Gas Co. ..	2	16·25	8·45	0·55	Nil.

The standard gas supplied by these companies should have an illuminating power of 16 sperm candles, and contain not more than 22 grains of sulphur and 4 grains of ammonia per 100 cb. ft. of gas on an average of three days withs a pressure of one inch between sunset and midnight, and six-tenths of an inch between midnight and sunset.

SOCIETY OF CHEMICAL INDUSTRY.

LONDON SECTION.

At the meeting of this section on Monday last, Mr. F. Bale read a paper on the "Commercial Production of Chlorine by the Ammonia-Soda Process" The outline of the process, as set forth in the paper, is given in the following abstracted description of the various stages of the preparation At the outset, ammonium chloride in powder is mixed with magnesia in powder, and heated in a series of retorts one above the other The ammonia is evolved in a *downward* direction through exits at the bottom sides of the retort; the volatilization of ammonium chloride being thus prevented. The ammonium chloride powder is mixed by stirrers, revolving through the cylinders. When the ammonia has been evolved, superheated steam is passed through the mixture; passages being opened for it by the revolving stirrers; and a strong current of hydrochloric acid is evolved. The mixture above stated, after the ammonia is evolved, may be agglomerated by spraying with a solution of ammonium chloride, and stirring sufficiently to allow of the subsequent passage through it of superheated steam after the ammonia is evolved. The pure hydrochloric acid thus evolved is then dried by a current of strong sulphuric acid, descending a Glover tower, heated up in a Cowper stove, and passed into a Deacon furnace containing peroxides, made into marbles, and heated up to a temperature of 550°C., when a strong current of chlorine is evolved, which can be used at once for the manufacture of bleach. Two-thirds of the hydrochloric acid thus used become fixed as chloride, from which it may be removed as dilute chlorine by heated air, or as hydrochloric acid by steam. The hydrochloric acid so obtained is passed into another series of cylinders containing peroxides, and strong chlorine may be obtained as before. As a continuous process for the production of chlorine, the author proposed to mix the hydrochloric acid gas evolved, as above described, in proper proportions with air; both having been previously dried, and heated to the required temperature, when a continuous current of dilute chlorine is obtained of 40 per cent or more, from the bottoms of the cylinders, and which is practically free from hydrochloric acid if the drying has been carefully done, and so may be used at once for the production of bleaching powder. Mixtures of hydrochloric acid gas, air and steam, may also be used with more or less advantage, the gases evolved being afterwards treated in separate cylinders, which for this purpose may be connected on the principle of the Hargreave's cylinders.

MANCHESTER SECTION.

The usual monthly meeting of this section of the Society was held last Friday week, at the Victoria Hotel, Manchester, and was well attended. The chair having been taken by Dr. Schunck, the impurities in Manchester gas were referred to by Mr. F. Carpenter. He said that the Noxious Vapours' Association had had the matter under consideration for some time, and was doing all in its power to spread knowledge as to the deleterious effects of sulphur in gas. When he had the honour last May of calling the attention of the section to the arguments put forward by certain eminent scientists in support of the Bill of the Crystal Palace District Gas Co. (*C. T. J.* 312, p. 302), he expressed his regret that such statements should have been made, because they would in the future be used in defence of the presence of excessive quantities of sulphur in gas. These arguments had been actually used as weapons in the controversy which had been going on in the local daily Press. It appeared to him that the creation of a healthy public opinion was desirable in connection with the subject, and it was therefore advisable to put such information as they could obtain at the disposal of Mr. F. Scott, the secretary of the Noxious Vapours' Association. Mr. George E. Davis pointed out that, in regard to the contention as to presence of water being essential to formation of acid, the necessary water was formed during the burning of the gas. He thought the authorities ought to be made to take a great deal of the su'phur—he did not say all—out of the gas. The adoption of the best practicable means should be enforced in every works If, as at Shrewsbury, gas could be made containing only six to seven grains of sulphur per 100 cubic feet—or as in London where 20 grains were permissible, but the actual amount present ranged from six to 18 grains—why could not the same be done in the case of Manchester gas? The Chairman said that to move Corporations or the Legislature it was necessary to prove that the presence of a large amount of sulphurous acid was injurious to health. In the case of infectious diseases it was in some respects very valuable.—Mr. Carpenter replied that it had been shown to be injurious to health.—Mr. T. Clarkson then read a paper on "A New Sampling Machine," in the course of which he dealt first with the difficulties and errors of sampling as at present practised, and emphasised the importance attached by analysts to correct sampling. He also referred to the directions given by the Board of Agriculture for taking samples in the administration of the New Fertilizers and Feeding Stuffs Act. He then described various systems of mechanical sampling which had been tried, and indicated the points in whi were deficient, after which he detailed the principle of the m which formed the subject of his paper. To obtain a represe sample the material is made to fall in a rotating annular stream aid of a revolving hopper and a spreading cone. Two samp then be withdrawn by intercepting this stream with a circula from which a segment allowing 5, 10, or any desired percen pass has been removed. The action of the machine was striking successfully instanced by taking a mixture of wheat, peas, and sand, weighing in all 25 pounds, and passing the same throu machine, which was set to remove two samples equal to 10% bulk. This operation was accomplished in about three-quarte minute, and the two samples were found to turn the scale at 2 precisely. In the discussion which followed the reading of the Mr. Geo. E. Davis, after speaking of the advantages of the m said he should like to ask one question, and that was how the proposed to deal with things of a pasty nature One or two members spoke of the necessity of efficient sampling.—In repl Clarkson said anything that could be made to flow, the machine deal with, and instanced one or two cases where material, diffi handle, had been easily sampled. He further said he should be consider any special cases in which the members might be inte Dr. Bowman next addressed the meeting on the subject of " cular Chemistry." He made no apology for bringing the subject the Society, because he thought the more we knew about the c tion of matter the more should we learn about the react industrial chemistry. He did not undertake to prove anythin merely presented the statements and suppositions of Crooke's, Her Lord Kelvin, and others, supplemented by certain remark experiments of his own. Chief attention was given to the evolu the elements according to the vortex-ring theory of matter. discussion which followed, Dr. Weber, Dr. Grossman, and Mr Davis took part. The latter commented upon the way in whi Bowman had succeeded in making a very difficult subject attr but would remind intending students of this subject that a little ledge was a dangerous thing, and it was advisable not to proph much. It was within his remembrance, when in the early thermo-chemistry, a worthy past president of the Society had that in accordance with certain thermo-chemical *data* aluminium never be produced by the decomposition of alumina with carbon Bowman replied briefly, after which the meeting terminated w usual votes of thanks.

SCOTTISH SECTION.

The usual monthly meeting was held in Glasgow, Marc Professor E J. Mills, of Glasgow, in the chair. The chief feat the agenda sheet was a paper by Mr. James F. Tocher, Peterhe "The Production of Gas from Paraffin Oils and from Pure Mem the Paraffin and Terpene Series of Hydro-carbons." Unfortu Mr. Tocher had taken ill and could not attend, but the paper its been lodged, and Mr. J. Stanley Muir, the secretary, proce read it. The manufacture of illuminating gas from oil on other mere experimental scale dated back nearly twenty years, t purpose to which it was practically applied being the lighting of carriages. Since then it has been somewhat largely used also fo house, lightship, and buoy purposes. But the present ver access of interest is due to the employment of oil gas by munici and other authorities as a valuable enricher for common coal gas paper entered with great detail into the various forms of retor used by investigators, with the object of deciding on the most formula, viz, that which would give a maximum of gas and a mi of tar, from the oil operated on. The varied results arrived a in his own experiments and others, were given in tabulated for the paper was further illustrated by diagrams of some portion apparatus experimented with. Very minute examination was m the differing results obtained from subjecting solid pa turpentine oils, olefines, and mineral oil of different gr to temperatures ranging from 500° to 1,200° Centigrade. general deduction arrived at was that the heavy mineral oils making were superior to Russian petroleum, this in its turn preferable to American petroleum. Olefines were highest in oil, and lowest in American petroleum. Towards the conclusio Tocher made reference to the valuable aid he had received in periments from the courtesy of Mr. McKay, of the Peterhe Works —Professor Mills said this was a valuable paper, but so with strictly technical detail, much of which had to be passe unread, that it would be more fitly assimilated by members appeared in the journal —Mr. E. C. C. Stanford said it was gre be regretted that Mr. Tocher himself had been unable to be for it was just the sort of paper where the presence of the auth most necessary, during any succeeding discussion or comment. cussion, he thought, ought to be deferred, and when it did tak he hoped Mr. Foulis, of Glasgow Gas Corporation, would be

t them. Glasgow for some time had largely used oil gas for ng the ordinary gas, and some authoritative information as to the financial and otherwise, would be most interesting.—After some conversation, it was agreed to delay the discussion.—A motion ks to Mr. Tocher was passed, and Mr. Muir, the secretary, was mented, most deservedly so, on the exceedingly effective way in he had read out this rather difficult paper. Subsequently, or Mills communicated the results of the experiments on the on of aniline, carried out by himself and Mr. W. Macfarlane

Correspondence.

ANSWERS TO CORRESPONDENTS.

Thanks for your prompt attention.
We trust the decision will be favourable, as such has been the case previously .—We hope the information will prove of service to you.
.—Yes, we shall be pleased to do so.
—They have been duly received. The balance has been forwarded.
So, we have not heard anything of a meeting as yet.
M.—We will see what we can do in the matter, but it is asking a good deal.

Trade Notes.

OINTMENT OF THE "CHIEF AGRICULTURAL ANALYST."—oard of Agriculture has appointed Professor T. E. Thorpe, , to be Chief Agricultural Analyst for the purposes of the Ferti- nd Feeding Stuffs Act, 1893,

CH MADDER.—Messrs. Bunge and Co., of Rotterdam, report ices still continue extremely low, and have attracted much atten- ring the past month. Exports were more than double as large ng the same period last year. There is a good demand from the , and this may have some influence on the prices for the future, t present stand :—Fine crop, 36s. per cwt. ; small, 29s. Fine s, 27s. 6d. ; good, 26s. ; small, 20s. ; reground, 15s. to 21s. ; 1s.

SALFORD SEWAGE EXPERIMENTS.—At the meeting of the Town Council, held this week, Mr. Snape inquired whether as any hope of the early appearance of the long-delayed report interminable sewage experiments?—Mr. Alderman Walmsley that it would be bad policy to unduly hurry the committee had the matter in hand, as it was important that any new sys- hich were brought out should be tried. But the committee were work, and in due course a report would be presented.

BRITON FERRY CHEMICAL AND MANURE COMPANY, RD.—At the eighth ordinary meeting of this company, which d at the office of the company, 9, Queen-street Place, London. rectors' reported that the net profit for 1893, was £7,671., , with £1,052. brought forward, £8,723. The dividend for the ounted to 10 per cent., absorbing £3,125., a similar sum being l to the Cape Copper Company as its share of the profit. has been transferred to renewal account, leaving about £1,335. rried forward.

MERCIOLOGICUM MUSEUM OF TURIN.—We are requested by etary of this museum to call attention to the same, and to mention benefit of those whom it may interest, that this museum which was l in 1860 by Professor Arnaudon, and is a permanent exhibition materials and staple products. Samples or patterns which are e are always welcome. There are departments for chemical s, weaving materials, leather and skins, oils and fat, and gums and varnishes. The museum is open daily for inspection, and ed in No. 1, bis Cours, Palestro.

ROBURITE EXPLOSIVES CO., LTD.—The directors of this y state in their report for the year ending December 31st, 1893, ter providing for all necessary charges, the net profits for the ount to £4,234., which, added to the balance brought forward 92, gives a total of £5,351. to appropriate. An interim divi- the rate of 5 per cent. per annum was paid on the preference n September last, and the directors now recommend the pay- a further dividend at the same rate, making the full dividend year. The directors regret that, owing to the loss of business by the great coal strike, the profits of the year are insufficient payment of a dividend on the ordinary shares. Under these tances, the directors, who are entitled under the articles of ion to £423., being 10 per cent. on the net profits available idend, have decided on this occasion to waive their right, e amount to be carried forward to next account is therefore

DISCOVERY OF A KAINIT BED.—In repairing an old shaft, the Consolidirte Alkaliwerke Westeregeln, has come across a rich bed of kainit, and the old shaft promises to be of considerable value.

ALUMINIUM AMMUNITION CASES.—It is stated that the War Office are contemplating the adoption of this metal in lieu of brass for cartridge cases, as aluminium is nearly four times as light as brass. Experiments are said to be in progress, but they are of a private nature.

THE NEW HEAD OF THE SOMERSET HOUSE LABORATORY.—We learn on good authority that the successor to Dr. Bell, now Chief of the Chemical Laboratory at Somerset House, and who retires shortly on account of the limit of age fixed by the Government, will be Dr. T. E. Thorpe, now professor at the Royal College of Science, London, and Examiner in Chemistry to the Department of Science and Art at South Kensington. The emolument attached to the post is £1,500. per annum.

DISCOVERY OF A COALBED.—A discovery has just been made in Merionethshire, which, if it turns out according to anticipations, will give great impetus to the trade of the county. Many years ago the Rev. Edward Williams had occasion to dig a well some 50ft. deep on his farm. At a depth of 35ft. they came across what appeared to be a seam of coal, but for some reason or other the owner gave orders to fill up the place. A short time ago a gentleman interested in collieries visited the place and pronounced in favour of boring operations, which will be commenced at once under the direction of a strong local syndicate. Some 60 years ago this district was noted for its limekilns.

MESSRS. A. BOAKE, ROBERTS AND CO.—A case of considerable interest to the brewing and chemical trades has just been settled, after having dragged its way through the Belgian Law Courts during the last four years. The case is that of *Messrs. A Boake, Roberts & Co.* v. *Heiderich*, for infringement of their Kalium meta-sulphite patent, which was pleaded in the Court of Cassation, on the 22nd of February last. The Court of Cassation upheld the decisions of the Court de Première Instance and of the Court of Appeal, this verdict making the fifth which has been given in the favour of this firm. The rights of Messrs. A. Boake, Roberts and Co. to the exclusive manufacture and sale of Kalium meta-sulphite are, therefore, now indisputable, the effect of the verdict being to secure this firm damages and costs to the extent of upwards of £4,000., and to establish their exclusive right to the manufacture and sale of meta-sulphite of potash for all and every purpose.

THE CASTLETON CHEMICAL CO.—At the Rochdale County Police-court last Wednesday seven charges were preferred, on the information of Mr. Hugh Barrett, manufacturing chemist, of Castleton, against Mr. Henry Spencely Close, of Hillam Hall, South Milford, Yorkshire. The charges were (1) "that he (Mr. Close), being a director, member, manager, secretary, or cashier of the Castleton Chemical Company, Limited, between the 1st of January, 1893, and 1st February, 1894, did make, circulate, or publish, or concur in making, circulating, or publishing written statements, or balance-sheets, or accounts which he knew to be false in material particulars, with intent to deceive and defraud the members, shareholders, or creditors of such company"; (2) of "falsifying books with respect of a receipt of £150."; (3) of "fraudulently omitting to make a true entry of receipt of £250. and £150. on the 28th of April, 1893"; (4) of "fraudulently taking and applying to his own use £150."; (5) of "fraudulently taking and applying to his own use £250."; (6) of "fraudulently omitting to make true entry of receipt of £250."; and (7) of "falsifying books with respect to receipt of £200. on the third of May, 1893." When the case was called it was announced that the hearing had been adjourned to the 28th inst.

SERIOUS FIRE AT A CHEMICAL WORKS.—On Wednesday night last, a fire broke out at the works of Messrs. H. Lockwood and Co., manufacturing chemists and tar distillers, Vickers-street, Miles Platting, Manchester. The fire, as to the cause of which nothing is known, appears to have originated in a brick building of two floors used as an anthracene store and press-room. Without delay several jets were attached to the high-pressure water mains, a steam fire engine was got to work in Vickers-street, and another by the side of the Rochdale Canal, on the banks of which the chemical works are situated. As was to have been expected from the combustible nature of the materials, the fire produced a great flame which illuminated the district for miles around. Happily the firemen—with the assistance of the workmen from the chemical works of Messrs. Hardman and Holden, Limited, and Messrs. H. D. Pochin and Co., Limited—soon succeeded in subduing the flames. The anthracene and other contents of the building were completely destroyed, and the building itself considerably injured, but the efforts to prevent the fire catching hold of the other buildings and of the highly inflammable stock in the yard proved entirely successful. There are a large number of chemical works in the neighbourhood, and great damage might have been done but for the promptitude of the fire brigade. By eleven o'clock they had succeeded in getting the fire under to such an extent, that the use of the engines was discontinued.

Personal.—We are informed that the Board of Agriculture has approved the appointment of Mr. J. Carter Bell, F.I.C., by the Cheshire County Council, as district analyst for Cheshire, under the New Fertilizer and Feeding Stuffs Act, 1893.

The United Asbestos Company, Limited.—The directors of the Company resommend dividends of 10 per cent. on £10. preference shares, 6 per cent. on £5. preference shares, and 2½ per cent on the ordinary shares, carrying forward a sum equal to 5¾ per cent. on the ordinary shares.

Chemistry in the Pulpit.—The Church Sanitary Association has resolved to suggest to the clergy the advisability of making the Seventh Sunday after Trinity, Sanitation Sunday for the general promulgation from the pulpit of the hygienic necessity for personal cleanliness, fresh air, light, pure water, unadulterated food, and every possible safeguard against infectious diseases.

The Wrong Salt.—A death through supposed accidental poisoning occurred at St. Helens last week, Robert Bickerstaff, chemical worker, entered the house, and said he would take a dose of "salts." He emptied a white powder into a cup of water which he drank, afterwards rinsing out the cup. He then said, "I think I've taken poison," and he expired almost immediately before medical aid arrived.

The Exports of Nitrate.—The Permanent Nitrate Committee have issued their first public statistical circular. It shows (1) total exports to Europe, February, 1,830,000 quintals (including steamers 1,000,000 quintals), loading for Europe 1st March 800,000 quintals; (2) arrivals in Europe, February, 76,700 tons; (3) deliveries in Europe, February, 142,000 tons; (4) visible supply Europe, 1st March, stocks and afloat, 385,000 tons.

Petroleum Tanks at Colombo.—An installation for the storage of bulk petroleum is to be erected at Colombo. There will be two tanks of about 1,000 tons capacity. The two tanks will be connected with the jetty by a pipe 8in. in diameter, along which the oil will be pumped from the tank steamer as she lies alongside the jetty. Alongside the tanks will be a pumping house for pumping the oil from the tanks into tank railway wagons, &c., also offices and storerooms.

Accident at a Chemical Works.—An inquiry was held last Wednesday touching the death of Thomas Massey. The deceased was employed at the works of Messrs. Hardman and Holden, chemical manufacturers, Miles Platting, Manchester, and it was his business to empty hot lime out of a tank, the top of which was level with the ground surface. The tank was usually covered by boards, which had to be removed when lime was taken out. On Saturday last the deceased accidentally slipped into the lime up to his waist. He was got out as quickly as possible, and after the usual remedies had been applied was taken to the Royal Infirmary. He was found to be badly burnt, and died on Sunday.—The jury returned a verdict of accidental death.

Hours of Labour in Chemical Works.—Just at the present time, when so much is being said about the excessive hours worked in chemical factories, it would be interesting to know what result would be elicited if a movement were set on foot, to ascertain instances where the desires of the workers' "friends" have been already anticipated. We learn that at the vitriol and chemical works of Mr. James Gibbs, of Plymouth, the eight-hour shift has been in force since 1870, and that the yardmen work 54 hours per week only. We are further told that the percentage of sickness among the employés is probably not more than two per cent. We should like to know if any other chemical manufacturer disputes with Mr. Gibbs the honour of having pioneered the eight hour movement.

Market Reports.

TAR AND AMMONIA PRODUCTS.

In benzol, both 90's and 50/90's are unaltered, with a tendency to easier prices for 90's. Solvent naphtha is without change in value. Carbolic acid, 40%, is a fraction easier, but crude, 60%, keeps firm at 1s. 8d. Crude naphtha, 30%, is worth from 6½d. to 6¾d. Pitch is weak, but value is still quoted 27s., f.o.b. East coast. Anthracene continues the same for both A and B grades.

Sulphate of ammonia keeps steady, though the demand is rather quiet. There must be, however, a good many requirements unsatisfied as yet. Prices keep firm, with a slight advance on last week's quotations in certain quarters. Beckton value is still £14.; and business has been done on Beckton terms at £13. 17s. 6d. London outside makes are also quoted £13. 17s. 6d.; Hull £13. 15s., and Leith £13. 16s. 3d. to £13. 17s. 6d. Nitrate is rather dearer.

MISCELLANEOUS CHEMICAL MARKET.

The position of the market in alkalies is unaltered. The dem still slack for ammonia alkali 58%, but price is steady at £3. 12 bags, at makers' works, and £4. to £4. 2s. 6d., f.o.b., in casks. are no changes to report in caustic soda, the current quotations, s to usual variations and conditions, being as follows: f.o.b. Tyne, £10. 15s.; f.o.b Liverpool, 74%, £10. 5s.; 70%, £9. 5s.; £8. 5s.; cream, 60%, £8. per ton, 10-ton lots and upwards. Ble powder is in good request at £7. 10s. f.o.r. makers' works, an f.o.b. The trade in bicarbonate and soda crystals continues du there are no alteration in prices. Hyposulphite of soda £5. 12 to £5. 15s., f.o.b. Recovered sulphur £3. 17s. 6d. to £4. pe f.o.r. Saltcake without improvement for present delivery, but business is reported over an extended period of time at advanced Sulphate of copper is a fairly active market at £15. 10s., f.o.b acetate of lime, soda, and other acetates generally, there are no f change in prices, but trade in these lines is quiet all round. demand for potash, caustic and carbonate, is still brisk, and pric well maintained. White powdered arsenic scarce, and price re firm at £14. Carbolic acid, crystals and liquid, are mea stationary in value, and only small business being done. Anili and salt are in a similar position. Yellow prussiate of potash 1 to 10¾d., according to quantity. Market reports from all di generally indicate an unsatisfactory state of trade.

REPORT ON MANURE MATERIAL.

The market continues quiet, without much alteration in v There are sellers of 75/80% Florida phosphate rock, 1894 ship at 8½d. per unit to good United Kingdom ports, at 8¾d. to Cont and at 9d. to Baltic. The quotation for Peace River and Carolina River rock remains 7¾d. per unit, but this is above b idea of value, and more attention is being given to the Conti descriptions and to Algerian. A cargo of Campo bones, Spring ment, has been sold at £4. 15s. to United Kingdom, and this re the asking price. There is nothing doing in crushed East Indian Bombay bone meal is selling at £5. 3s. 9d. per ton, ex quay Live but for shipment £4. 17s. 6d. would probably do. £4. 10s is the value of Mediterranean bones, ex quay Liverpool. Nitrate o is firm. On spot 9s. 4½d. for ordinary quality is the lowest 9s. 6d. to 9s. 7½d. per cwt. for good to refined. Due cargo worth about 9s. 4d. per cwt. There is nothing to report in miscell nitrogenous material in the absence of supplies.

THE METAL MARKET.

LONDON, Wednesday.—Pig iron dull: Scotch wa closed at 42s. 10d., Middlesbrough 36s. cash, and hematite 44s. Copper, firm: Chili bars, G.O.B.'s and G.M.B.'s, clos £40. 13s. 9d. to £40. 17s. 6d. cash, and £41. 5s. to £41. three months. Tin, steady: Straits closed at £66. 5s. to £6 cash, and £66. to £66. 10s. three months; Australian, £65. 1 English ingots, £70. Lead, quiet: Spanish, £9. 6s. 3d.; E £9. 7s. 6d. to £9. 10s. Silesian spelter, ordinary, £15. 13s. £15. 15s. Nickel, 1s. 8½d. Antimony, £36. Quicksilver hands, £5. 12s. 6d.; second hands, £5. 12s. *Copper shares*, Cape, 1 6/16 to 1 7/16; Copiapo, 1¾ to 1⅞; Libiola, 3 7/16 to 3 9/16; and Barry, 2⅛ to 2⅜; Rio Tinto, 14⅜ to 14¾; Tharsis, 4¾ to

WOLVERHAMPTON, Wednesday.—The rather more favo nature of the Board of Trade returns produced a favourable impr on 'Change. Business is limited but steady, and prices are maintained. Marked bars are £7. 10s., and common £6. £6. 15s. Hoops range from £6 5s. to £6. 10s, and gas tube £5. 15s. to £5. 17s. 6d. Sheet iron of 24 gauge averages £6. 1 Staffordshire cinder pigs move freely at 39s.

GLASGOW, Wednesday.—Market dull, with small bu Scotch done at 42s. 11d. and 42s. 10½d. cash, also at 43s. 0½ month; closing with buyers at 42s. 10d. cash, sellers ask ½d. Cleveland done at 36s. cash, also at 36s. 2d. one month; closin buyers at 36s. cash, sellers ask ½d. more. Cumberland hematite d 44s. 10d. cash, also at 45s. 0½d., and 45s. one month; closing buyers at 44s. 9½d. cash, sellers ask 44s. 10d. Middlesbrough he done at 44s. 4d. one month; closing with buyers at 44s. 1½d. sellers ask 1d. higher.

LIVERPOOL OIL AND COLOUR MARKET

Wednesd

OILS.—Palm oil has ruled firm all the week, and has been freely, with Lagos at £22. 10s. spot, and £22 5s. to arrive. oils £21. 15s., and softs £22., all transit. The cheaper quali

ve been moving more freely, and prices are steady. Linseed rather quiet, but quotation for Liverpool makes in export casks unaltered at 21s. to 21s. 6d. per cwt. Cottonseed has been ll the week at 20s. 3d. to 21s. 6d. per cwt. for Liverpool

Castor oil is steady on the whole, good seconds Calcutta is n spot at 2¼d. to 2 5/16d., with a fair amount of business doing. ssure French is not so firm, and buyers are making an effort r prices. Tallow is steady, but the market is rather dull merican is quoted 26s. to 27s, and South American 28s. 6d. to per cwt. Resin, common, is firm at 3s. 9d. per cwt., with a od all round inquiry. Holders of spirits of turpentine are t 22s. 9d. per cwt. Petroleum is dull, American 4⅛d. to 5½d., g to quality; Russian refined 3½d. to 3⅝d. per gallon.

OURS are steady without alteration in prices.

Oxfordshire, common, £10., medium, £12., best, £15.; ire, common, 40s.; medium, 50s., best, 60s.; Welsh, best, conds, 50s., and common, 18s.; Irish, Devonshire, 40s. to rench, J.C., 55s. to 60s.; M.C., 65s. to 67s. 6d. Umber: quiet; Devonshire, 50s. to 55s. White lead, and oxide unchanged. Venetian red, £6. 10s. to £10. Cobalt: d oxide, 9s. 9d.; black, 9s.; blue, 6s. Zaffres: No. 1, No. 2, 2s. 6d. Oxide of iron: Common, £6.; medium, finest, £20. Zinc oxide, £23. to £25.

THE COPPER MARKET.

s. Harrington and Co, in their fortnightly report, dated Liver- arch 1st, state:—

charters for the second half of February are advised as 850 ich, with 1,100 tons for the previous fortnight, makes 1,950 the month. The total since 31st December is 3,250, against ns same time last year. During the past fortnight the market b.'s and G.m b.'s has been irregular, and about 6,000 tons hands at prices varying between £42. cash and £42. 8s. 9d. nths, down to £40. 17s. 6d. and £41. 7s. 6d. respectively, quiet at the latter figures.

otal stocks in Liverpool, Swansea, London, and Havre are ns, against 43,448 tons on the 25th ult., showing an increase ns for the fortnight. The figures for the previous fortnight a decrease of 205 tons, making an increase for the month of . The stocks include about 800 tons of copper sold, but not vered to smelters. The visible supply for the fortnight is ns, against 47,098 tons on the 15th February, showing an of 357 tons The month's figures show an increase of 250 he stock of English G.m.b.'s in Liverpool remains at four tons. and manufactured sorts are dull, the quotations being:—Tough 2. 15s to £43. 5s.; best select, £43. 10s to £44. 10s.; heets, £49. 10s. to £50.; strong sheets, £52.; and yellow eets, 4 7/8d. per lb.

les of furnace material comprise:—At Liverpool: 945 tons , at 7s. 6d.; 100 tons Portuguese ore, low produce, at l. per unit; 28 tons Argentiferous Peruvian Matte and 113 gentiferous Chili Regulus, on private terms. At Swansea: s Namaqua ore, to arrive, at 7s. 6d. per unit.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, TUESDAY.

ief feature affecting the mineral oil and paraffin section of this s the meeting in London of the candlemakers of the country, three or four of the Scotch Mineral Oil Companies (as large akers) were represented. This product at present is unprofit- , having been brought to that by the breaking up of makers' t, and consequent rivalry in the cutting down of quotations. is now to be made to stop this by getting the trade to agree l minimum. A committee was formed for this purpose. There o change, for the present, in paraffin scale and wax, the raw of the manufacture.

general market there is still a fairly brisk inquiry after quota- lots of chemicals against spring shipments, but not much actually concluded, and values have not been affected for the by, at least to any extent worth reckoning.

te of ammonia seems rather firmer, but the exact position of e on the market is still doubtful. The figures below are an ation, but some makers talk of higher money, and some lower.

prices current are:—Soda crystals £2. 5s. nett, Tyne; 48/52° £3. 12s. 6d. to £3. 16s. 3d. nett, Tyne; white alkali 4. 10s to £5. 5s. nett, Tyne; alum in lump £5. nett, Glasgow; da, white, 74° £10. 10s., 70/72° £9. 5s., 60/62° £8. 5s., and /62° £8. 5s., all nett, Liverpool; bleaching powder £7. to nett, Tyne; saltcake, 17s. 6d.; borax, English refined, £30., cic acid, £37. 10s. nett, Glasgow; bicarbonate of soda, 5-cwt. 5. 10s., and 1 cwt. casks £6. 15s. nett, Liverpool; bichromate of potash, 4½d. nett, for Scotch and English deliveries (for export, 4¼d. nett, f.o.b. Glasgow); bichromate of soda, 3¾d. nett, for Scotch and English deliveries (for export, 3½d. nett, f.o.b. Glasgow); chlorate of potash, 7¾d. less 5%, Liverpool; nitrate of soda, 9s. 6d; sulphate of ammonia, £13. 15s. to £13. 17s. 6d., f.o.b. Leith; salammoniac, first and second white, £39. and £37. nett, any port; sulphate of copper, £15. 5s., less 5% Liverpool; paraffin scale, hard 1⅞d per lb.; soft 1⅞d. to 2d.; paraffin wax 120° semi-refined 2⅜d. to 2½d.; paraffin spirit (naphtha), 4¼d. per gallon; paraffin oil (burning), standard No. 1 grade, 5d. at works, for Scotch buyers (English sales, ½d to ¾d. lower); ditto (lubricating) 865° £3. 15s. to £4., 885° £4. to £5., and 890/895° £5. to £6. Week's imports of raw sugar at Greenock were 14,050 mats.

TYNE CHEMICAL REPORT.

TUESDAY.

Business in chemicals still continues quiet. Bleach in rather better demand at £7. 10s. per ton. Caustic 76/77%, £10. 15s.; 70%, £9 per ton. Sulphur dull, at £4. 2s. 6d. per ton. Other products unaltered.

Bleaching Powder, softs, £7. 10s. per ton, nett; hards, £7. 15s per ton, nett; caustic soda, 76/77%, £10. 15s. per ton, nett; do., 70%, £9. 5s. per ton, nett; recovered sulphur, 2cwt. bags, £4. 2s. 6d. per ton, nett; soda ash, 48%, £3. 12s 6d. per ton, nett; do., 52%, £3. 16s. 3d. per ton, nett; do, 56%, £4. per ton, nett; alkali, 36%, £2 15s. per ton, nett; white alkali, 48%, £4. 10s. per ton, nett; do, 50%, £4. 15s. per ton, nett; do., 52%, £5. 5s. per ton, nett; hyposulphite of soda, 5-7 cwt. casks, £5. per ton; do., 1 cwt. kegs, £5. 10s. per ton, nett; silicate of soda, 75° Tw., £2. 17s. 6d. per ton, nett; do., 100° Tw., £3. 12s. 6d per ton, nett; do., 140° Tw., £4. per ton, nett; soda crystals, casks, £2. 5s. per ton gross weight; do., 2 cwt. bags, £2. 5s. od. per ton, nett; chlorate of potash, 8½d. per lb, less 6%; pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £4. 2s. 6d. per ton, nett; blanc fixe, £7. 10s. per ton, nett; chloride of barium, £7. 10s. per ton, nett; carbonate of alumina, £28. 15s. per ton, nett; aluminate of soda, £33. 15s per ton, nett; in 5 ton lots, £28. 10s. per ton, nett.

South Durham Salt rather scarce, at 9s. 6d. per ton, f.o.b. Tees.

Coals.—Quotations are rather irregular, and prices for prompt delivery are said to be a little weaker. Best Northumbrian steam, 10s. to 10s. 6d. per ton, nett; small steam, 4s. per ton, nett; gas coals vary from 7s 6d. to 8s. 6d. per ton, nett; bunker coals plentiful, 7s. to 7s. 6d. per ton, nett; coke in good demand, 14s. 6d. to 15s. per ton, nett.

HULL PAINT, OIL, AND COLOUR REPORT.

TUESDAY.

OILS.—The shipment of cottonseed to Hull from Alexandria during the season commencing Sept. 1st amounted to 124,120 tons, against 140,360 tons in the corresponding period of the previous year To all other ports during the same time the shipments reached 117,750 tons. The present aggregate stock in Alexandria is about 43,700 tons. Amongst the principal imports up to date are the following:—Linseed 78,233 qrs., against last year during the same period 14,339 qrs.; rapeseed 17,756 qrs, against 14,695 qrs.; cottonseed 58,174 tons, against 58,636 tons; olive oil 3,675 casks, against 1,940 casks; rape oil 1,721 casks, against 1,307 casks; oil cakes 5,952 tons, against 2,658 tons; tallow 3,373 cwts., against 5,377 cwts; bones 1,285 tons, against 1,591 tons. Linseed oil has been easier, and closes quiet at 19s 1½d. naked spot; March-April, or May-August offer at same price; and September-December 18s. 3d. accepted again; casks 17s. 6d., and ordinary barrels 22s. 6d., per ton extra. Export for the week, 940 cwts. Cottonseed oil: Refined has declined about 5s. per ton, closing, however, with buyers at 18s. 3d. naked spot; edible qualities, £1. per ton extra; March-April worth 18s. 6d., May-August, 19s. Export of refined for the week, 4,300 cwts. Castor oil has been lower in price than it has been known before: 2¼d. per lb. for first pressure. Rape oil continues very low and unchanged. Spirits of turpentine, 22s. 9d. per cwt. Olive oil lower in price, and can be bought from £31. per ton up. Cod oil, £17. 10s. to £19. 10s. per ton. Sod oil for tanners and curriers, etc, from £16. per ton. Pale seal oil, £21. per ton. Brown wool grease, £8. per ton. Engine and cylinder oils from 1s. to 2s. per gallon.

CAKES.—Linseed cakes steady for spot and March, April, and May, but easier for summer delivery. Spot, 95 per cent. pure, £8. 10s. to £8. 12s. 6d.; Russians, £7. 15s. to £8. 2s. 6d.; Polish, £8. 5s. Cotton cakes: A firmer feeling, due to the improved tone and easier oil market, but orders not plentiful. Best makes, £5.; seconds, £4. 15s. Rape cakes: East India, £4. 10s.; Black Sea, £3. 17s. 6d.

PAINTS.—The trade generally for these goods is looking better, and inquiries are more plentiful than orders. Prices are unchanged: Oxide of zinc paint, £22. per ton; white lead. £17. 10s. per ton; Venetian red, dry, from £6. to £10. per ton; red lead, £13. 10s.

per ton; oxide of iron, dry, from £9. to £18. per ton; ready mixed paints, £26. per ton; oak varnish, from 5s. 6d. per gallon; common black varnish, £5. 10s. per ton in barrels.

New Companies.

Petrolite Company Limited. Capital £20,000. in shares of £1. each. This company has been formed to trade as manufacturers, refiners, and exporters of petroleum and other mineral oils. The subscribers to the memorandum of association are:—A. Turner, 84, Cannon-street, E C, solicitor; C. J. Smith, Lavender Hill, S.W., agent; T. Park, New Cross, S.E., agent; A. G. Gardner, 42, Penge-road, S.E., secretary; E. R. Stanbury, Wandsworth, S W., clerk; E. C. Woodman, 63, Isledon-road, N., accountant; W. C. Chapman, Holloway, N., clerk.

Wankowa-Brelikow Limited. Capital £100,000. in shares of £10. each. This company has been formed to search for, get, and prepare for market, petroleum and other mineral oils, and to acquire the properties known as Wankowa and Brelikow in Galicia The subscribers to the memorandum of association are:—H. W. Horne, The Grange, Wimbledon, barrister; L. L. Shadwell, 13, Old-square, W.C., barrister; A. Pollock. 36, Curzon-street, Mayfair, W., gentleman; J. C. Parkinson, 17, Great George-street, S.W., Esq.; T. H. Lewin, Parkhurst, Abinger, near Dorking; J. G. Gordon, J.P., Queen Anne's Mansions, S.W.; P. Birkett, Pinner, gentleman.

Dee Oil Co., Ltd. Capital £65,000. in shares of £1. each. This company has been formed to take over the Dee Oil Co., Ltd. (incorporated 1888), on the arrangement specified in this *journal*, No. 353, page 127, and to carry on the business of manufacturing chemists, oil, and colourmen, etc. The subscribers are:—E. T. Lambert, Telham-court, Battle, Sussex; Cowley Lambert, Tangley, Guildford; E. P. Parsons, Melbourne House, Blackheath; P. R. Parsons, Woodcroft, Grove Park, Leek; H. S. Cottrell, Ellesmere Park, near Manchester; John Lawson, Highfield, Sharples, near Bootle; A. McPherson, Parsonage-road, Withington; R. N. Carter, 16, Kennedy-street, Manchester; Wm. Marsden, 89, Every-street, Manchester.

Gazette Notices.

PARTNERSHIP DISSOLVED.

J. Stonehouse & A. Hammersley, under the style of James Stonehouse Nottingham, drysalters and general wholesale merchants.

The Victoria Scotch Soda Manufacturing Company, Rosebank-r Stephen's-road, Bow.

BANKRUPTCY ACTS, 1883 and 1890.

Receiving Order.

Caleb Long, Fishponds, Glouce:tershire, late oil manufacturer, now out of b

The Patent List.

This list is compiled from Official sources in the Man Technical Laboratory, under the immediate supervisi George E. Davis and Alfred R. Davis, who report profess upon the value of Chemical Patents.

APPLICATIONS FOR ENGLISH LETTERS PATEN

Preventing Boiler Incrustation. T. Lowe. 3,492. Feb. 19.

Purifying and Utilising Combustion Gases. F. W. Golby. Feb 10.

Making Chloride of Strontium from Strontium Sulphate. F. W. 3,560. Feb. 19.

Producing Nitric Acid from Air, and Ammonia from Air and Gas. F. Hlavati and F. Sladky. 3,571. Feb. 19.

Separating Calcareous Impurities from Water. A Dervaux. Feb. 20

Smoke-Consuming Apparatus. R. Morris and J. Lindley 3,744.

Manufacture of Carbonic Acid Gas, Bicarbonate of Soda, and S H. R. Angel. 3,767. Feb. 21.

Improvement in Hydro-extractors. S. H. Sparkes 3,792. Feb. 22.

Artificial Stone. T. D, Harries. 3,803 Feb 22

Float for Determining Specific Gravity of Boiling Tar, etc. Brown. 3,805. Feb. 22.

Electro Decomposition of Metals. M. Roskell. 3,922. Feb. 23

Smoke-Consuming Apparatus G. W. Poole. 3,963. Feb. 24.

Purifying Sewage and Foul Waters. H Lockwood. 3 969. Feb. 2

Improvements in Brine Evaporating Plant. W. A. Kirkham. Feb. 24.

Improvements in the Distillation of Ammonia. A. R Davis. Feb. 24.

IMPORTS OF CHEMICAL PRODUCTS AT THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending February 24th.

Acetanilide—			
Holland,	7 pkgs		F. Boehm
,,	3		J. Barber & Co.
Acetic Acid—			
Holland,	3 cks.		Beresford & Co.
,,	30 pkgs		J. Owen
,,	40		A & M. Zimmermann
Acetone—			
Holland,	2 pkgs.		Beresford & Co.
,,	4		A. & M Zimmermann
Alkali—			
France,	220 c.		Arnati & Harrison
Germany,	5		T. H. Lee
Alum—			
Belgium,	24 pkgs.		R.W. Greeff & Co.
Holland,	314		Ohlenschlager Bros.
Alumina—			
Holland,	29 pkgs.		Beresford & Co.
Ammonium Chloride—			
Holland,	33 pkgs.		H Lorenz
,,	5		Kaltenbach & Schmitz
Antimony Ore—			
Germany,	10 t.		Hunt & Kerr
E. Turkey,	100		J. Bamber
Australia,	23		Vivian, Younger & Co.
Asbestos—			
France,	£31.		Mory & Co.
Holland,	£120.		Bell's Asbestos Co.
,,	£33		Rosenberg, Loewe & Co.
Barium Chloride—			
Germany,	24 pkgs.		Petri Bros.
Barytes—			
Germany,	19 cks.		S. H. Willoughby
,,	2		Steinhoff, Sons & Muir
,,	46		W. Harrison & Co.
Belgium,	84		
,,	20		S. H. Willoughby
Holland,	20		Magee, Taylor & Co.
,,	57		Soundy & Sons
,,	24		Union L. Co., Ld.
Bleaching Soda—			
Germany,	71 c.		H. Lambert
Butyl Hydrate—			
Holland,	9 pkgs		J. Barber & Co.
Borate of Lime—			
Persia,	400 pkgs.		A. Hughes
Caoutchouc—			
Belize,	1 c.		Belize Produce Co.
U States,	70		L. & I. D. Jt. Co.
E. Indies,	8		,,
B. Honduras,	1		,,
Melbourne,	16		,,
Madagascar,	71		W. M. Smith & Sons
France,	23		H. Johnson & Sons
Carbonic Acid Gas—			
Holland,	58 pkgs.		Leitz & Co
Castor Oil—			
France,	26 brls.		Beresford & Co.
,,	30		Lucas & Spencer's Wf, Ltd
,,	100		J. T. Morton
Belgium,	30		Burrell & Co.
Italy,	5 cs.		Hunt & Kerr
Caustic Potash—			
Holland,	103 c.		J. M. Steel & Co
Chemicals (*otherwise undescribed*)			
Germany,	47 pkgs.		T. H. Lee
,,	91		A. & M. Zimmermann
U. States,	20		S. Lambert & Co.
Holland,	£18		Phillipps & Graves
Belgium,	4 cs.		T. Palmer
Chrome Ore—			
Australia,	100 t.		L. & I. D. Jt. Co.
A. Turkey,	1		M. D. Co.
Cream of Tartar—			
France,	20 pkgs.		W. C. Bacon & Co.
,,	10		M. Ashby, Ltd.
,,	5		F. C. Devon & Co.
,,	5		B. & F. Wf. Co, Ltd.
,,	40		H. W Peabody & Co.
Holland,	16		Kirkpatrick & Co.
Dextrine—			
France,	10 pkgs.		C. Atkins & Nisbet
Germany,	10		Prop. Sun Wf.
Dyestuffs—			
Annatto			
France,	1 pkge.		C Faust & Co.
,,	10		R. J. Fullwood & Co.
E. Indies,	56		R. Von Glehn & Sons
Argols			
Italy,	384		B. Jacob & Sons
,,	74		Thames S. T. & L. Co., Ltd.
Extracts			
France,	30 pkgs.		Union L. Co., Ltd.
Belgium,	2		T. H. Lee
Germany,	11		,,
,,	20		Herrmann, Keller, & Co.
France,	520		L. J. Levinstein & Sons
,,	110		Prop. Chmbln.'s Wf.
U. States,	40		W. Burton & Sons
Fustic			
Greece,	18 t.		Barff & Co.
Gambier			
E. Indies,	230 bls.	1,781 pkgs.	L. & I.
Indigo			D. Jt. Co.
E. Indies,	130 chts.		L. & I. D. Jt. Co.
,,	41		H. Johnson & Sons
,,	35		Elkan & Co.
,,	19		Thomasset & Co.
,,	14		F. Huth & Co.
,,	22		Credit Lyonnais
,,	71		Ross & Deering
,,	55		F. W. Heilgers & Co.
,,	50		Park, Macfadyen, & Co.
,,	7		Bieber & Co
,,	21		Parsons & Keith
,,	23		H. W. Jewsbury & Co.
,,	35		Darling Brs.
,,	20		Dipnall & Co.
,,	9		J. Kenyon & Sons
,,	22		T. Barlow & Bro.
Belgium,	1		F. W. Heilgers & Co.
Logwood			
B. Honduras,	146 t.		Belize Estate Co.
Belize,	140		A. Hagan
Jamaica,	293		Skilbeck Brs.
Myrabolams			
E. Indies,	395 pkgs.		Beresford & Co.
,,	280		A. & W. Nesbitt
E. Indies	1 340 pkgs.		Baxter &
,,	1,500		A
Shumac			
Italy,	100 pkgs.		J. Kn
,,	40		H
,,	350		J. Kitch
Tanner's Bark			
N. Zealand,	27 t.		Beresfo
Belgium,	15		Lea
Turmeric			
Belgium,	50		Lewi
Farina—			
Holland,	21 pkgs.		J. Barb
Germany,	50		,,
,,	50		Seaw
Glucose—			
U. States,	125 pkgs.	125 c.	
,,	50	280	Pillo
,,	20	100	Beck &
,,	600	600	Barrett
,,	3,200	3,200	
,,	200	1,091	Morto Prop. S
Germany,	25	201	Prop.
Iron Oxide—			
Persia,	500 t.		M
Iron Sulphate—			
Germany,	1 ck.		B. & N.
Lead Acetate—			
Germany,	30 pkgs.		
,,	16		Beresf
Holland,	12		
Llanoline—			
Germany,	2 pkgs.		L. & I.
Magnesium—			
Germany,	1 pkge.		D. V hou
Manganese Borate—			
Germany,	4 pkgs.		Spies B
Manganese—			
Holland,	£25		J. Bar

ure—
…ce, 60 t. J. Burnett & Sons
… 100 C. A. & H. Nichols
…yl Alcohol—
…many, 7 cks. Elkan & Co.
… 3 Lister & Biggs
… 6 brls. Stein Brs.
—
…many, £20 L. & I. D. Jt. Co.
…ic, 190 W. M. Smith & Sons
…ndies, 160 …
…el Sulphate—
…many, 16 pkgs. Anderson, Weber & Smith
…c—
…thagena, 81 brls. W. Pope & Co.
…land, 31 pkgs Phillipps & Graves
…nce, 125 brls. 141 cks. W. Harrison & Co.
…y, 15 …
…ic Acid—
…rway, 20 pkgs. A Hughes
…affin Wax—
…S., 3,469 brls J. H. Usmar & Co
… 100 H. Hill & Sons
…phate Rock—
…nce, 140 t. Odam's Chemical Manure Co.
… 214 Anglo-Cont. Guano Works
…land, 195 … …
… 190 Odam's Chemical Manure Co.
… 155 D. de Pass & Co.
…gium, 40 B. Jacob & Sons
… 218 D. de Pass & Co.
… 10 H. & E. Albert
… 200 West & Penrose
… 100 Anglo-Cont. Guano Works
…S., 2,015 A. Hunter & Co.
…h—
…gium, 7 cks. Poth, Hille & Co.
…n, 45 brls. …
…nbago—
…don, 58 brls. A. Howden & Co
… 40 Marshall & French
…land, 24 cks. B. Gallaway
…ash—
…S., 83 c. Charles & Fox
…nce, 103 Petri Brs.
… 140 F. W. Berk & Co., Ld.
…ssium Bicarbonate—
…land, 74 cks. A & M. Zimmermann
…ssium Carbonate—
…ada, 200 c. J. Barber & Co.
…ssium Chlorate—
…gium, 20 pkgs. T. H. Lee
… 25 J. W. Drysdale & Co.
…asium Sulphate—
…land, 34 pkgs Phillipps & Graves
…ice Stone—
…ary, 1 t. L. & I. Dk Co.
…y, 15 c. Capt. Keys
…tes—
…naron, 930 t. Mason & Barry, Ltd.
…ksilver—
…in, 5,000 btls. N. M. Rothschild & Sons
…y, 500 btls. L. & I. D. Jt. Co
…n—
…rmany, 19 brls. H. Lambert
…petre—
…rmany, 51 cks. J. Hall & Son
… 250 bgs. P. Hecker & Co.
… 4 cks. Petri Brs.
…Indies, 1,368 bgs. Lucas & Spencer's Wf.
…ium—
…land, 30 pkgs. Beresford & Co.
…ch—
…rmany, 735 pkgs. Horne & Co.
… 200 Seward Brs.
… 90 J. Hall jnr., & Co
…land, 92 J. Barber & Co
… 180 Little & Johnston
… 20 Phillipps & Graves
… 102 Magee, Taylor, & Co.
… 10 G Rahn & Co.
…gium, 130 F. Rosenthal & Co.
…ance, 474 Prop. Scott's Wf.
…arine—
…land, 298 bgs. Palmer & Co., Ltd.
…gium, 142 14 cks. H. Hill & Sons
…ance, 390 Beresford & Co.
… 80 Walbaum & Tosetti

Sulphur—
Italy, 28 t. J. Kitchin, Ltd.
… 10 G. Boor & Co.
… 13 F. Smith
… 5 J. Puddy & Co.
Talc—
Austria, £50 Stobbs, Wilson, & Co
Tallow and Stearine—
N. Zealand, 2 cks. L P. D. Co
Tartaric Acid—
Germany, 20 pkgs. T. H. Lee
Holland, 30 Kirkpatrick & Co.
… 5 F. C. Devon & Co
… 18 B. & F. Wf Co., Ltd.
Ultramarine—
Holland, 5 cs. Hernu, Peron, & Co
Varnish—
France, 13 pkgs. Flageollet & Co.
White Lead—
Germany, 22 cks. Petri Brs
Holland, 50 T. & W. Farmiloe
… 11 Spies Brs. & Co.
Belgium, 698 pkgs. R G. Jones Price & Co.
… 24 cks. Leach & Co.
Germany, 10 H. B Alder & Co.
… 40 Randall Brs.
… 1 M. Keller & Co.
… 27 S H. Willoughby
Zinc Oxide—
U. States, 1 cs Davies, Turner, & Co.
… 100 brls. M. Ashby, Ltd.
Holland, 75 …
… 25 cks. Burrell & Co.

LIVERPOOL.

Week ending February 22nd.

Acetic Acid—
Antwerp, 14 blns.
Albumen—
Naples, 3 brls.
Marseilles, 20 cs.
Alum—
New York, 3 pkgs. Davies, Turner, & Co.
Aniline Colours—
Genoa, 1 ck.
Antimony—
Valparaiso, 5 pkgs. 6 brls. H. Sieglehurst
Barytes—
Antwerp, 66 cks. 262 bgs.
Hamburg, 2
Bone Meal—
Calcutta, 2,240 bgs.
Boracic Acid—
Leghorn, 12 cks.
Hamburg, 1
Borate of Lime—
Antofagasta, 2,195 bgs.
Borax—
Valparaiso, 32 sks. H. W. Gibson
… 23
Caoutchouc—
Havre, 468 pkgs. 41 cks. Cunard S S. Co., Ld
Castor Oil—
Genoa, 10 cs.
Calcutta, 1,250 Ralli Brs.
Marseilles, 164 cks.
Leghorn, 10 cs.
Colours—
Antwerp, 8 brls. 1 ck. J. T. Fletcher & Co.
… 2 cs.
Dyestuffs—
Algarrobilla
Coquimbo, 446 sks.
Annatto
Bordeaux, 7 cks.
Argols
Bordeaux, 212 kgs.
Cochineal
Teneriffe, 40 sks. A. B. Ansbacher & Co.
Divi Divi
Hamburg, 194 bgs.
Extracts
Fiume, 381 brls. De Clermont & Donner
… 221
Antwerp, 50 cks. J. T. Fletcher & Co.
New York, 35 brls. 1 kg 75 bxs.
… 10 J. Sharples & Co.
Trieste, 600 Oak Extract Co.
Fustic
Hamburg, 3 ps.
Gambier
Singapore, 516 bls. E. Boustead
… 2,335 R. & J. Henderson
… 4,444
Indigo
Calcutta, 340 chts. 1 bx.
Saffron
Valencia, 1 cs.
Shumac
Palermo, 100 bgs.
Barcelona, 100
Valonia
Syra, 294 bgs. Barff & Co.
Farina—
Fiume, 20 bgs. Beimel & Basch
… 440
… 100 H. T. Goddoum
Glucose—
New York, 250 brls.
Philadelphia, 400
Baltimore, 100
Iodine—
Iquique, 21 brls. A. Gibbs & Sons
Valparaiso, 20 Lantaro Nitrate Co.
… 90 W. & J. Lockett
… 63
Manganese Ore—
Coquimbo, 1,000 t.
Mineral White—
Genoa, 100 bgs.
Nitrate—
Caleta Buena, 5,650 bgs. Duncan, Fox, & Co.
Ochre—
Marseilles, 31 brls.
Paint—
Marseilles, 8 cks. 10 cs.
Boston, 20 J Waters
… 47 Bahr, Behrend, & Ross
Hamburg, 20
Amsterdam, 6
Phosphates—
Antwerp, 1,010 bgs.
Antwerp, 1,000 J. T. Fletcher & Co
Phosphate Rock—
Punta Gorda, 3,000 t.
Pitch—
Marseilles, 12 cks.
Plumbago—
Genoa, 105 bgs. 40 cks G. Huntriss & Co.
Potash—
Hamburg, 2 cks.
Portland, Me., 19 brls.
Dunkirk, 3 30 dms.
Antwerp, 26
Potassium Chlorate—
Antwerp, 4 cks.
Potassium Nitrate—
Dunkirk, 30 cks.
Pyrites—
Huelva, 1,422 t. Matheson & Co.
Rosin—
Savannah, 3,220 brls.
Salt—
New York, 10 cks.
Saltpetre—
Calcutta, 1,891 bgs.
Hamburg, 30 kgs. 4 cks.
Calcutta, 1,191 Ralli Brs.
Soap—
Norfolk, Va., 680 brls.
Bari, 226 cs.
Marseilles, 14 Cox Brs.
… 48
Philadelphia, 6 bxs.
Leghorn, 300 Weaver & Storry
… 50
Naples, 106 P. Behrends
Boston, 2 J. Thompson
Soapstone—
Trieste, 100 bgs. W. Harrison & Co.
Bordeaux, 300 G. G. Blackwell
Starch—
Antwerp, 30 cs.
… 80 J. T. Fletcher & Co.
Philadelphia, 200 bgs.
Bremen, 160
Hamburg, 264
Stearine—
Antwerp, 13 bgs J. T. Fletcher & Co.
… 13
Bordeaux, 15 cs.
Rotterdam, 1 ck.
Sulphur—
Catania, 487 cks. 709 bgs 55 brls
Talc—
Genoa, 100 bgs.
Tartar—
Bordeaux, 29 cks
Tartaric Acid—
Rotterdam, 2 cks.
Ultramarine—
Hamburg, 5 cs.
Verdigris—
Bordeaux, 4 cks.
White Lead—
Antwerp, 43 cks.
Rotterdam, 48
Zinc Oxide—
Antwerp, 21 brls.

MANCHESTER.

Week ending February 24th.

Acetic Acid—
Antwerp, 10 blns.
Barytes—
Rotterdam, 5 cks.
Castor Oil—
Antwerp, 28 brls.
Chemicals (*otherwise undescribed*)
Rotterdam, 1 brl.
Colours—
Rotterdam, 20 brls. 10 cs. 1 bx. 44 pkgs. 41 cks.
… 11 3 cs. Simpson, Howden, & Co.
Antwerp. 1 5 3 brls.
Cream of Tartar—
Rotterdam, 20 kgs.
Dyestuffs—
Alizarine
Rotterdam, 23 brls.
… 11 23 cks. Simpson, Howden, & Co.
Extracts
Antwerp, 6 brls.
Glucose—
Rotterdam, 50 bgs.
Lead Acetate—
Rotterdam, 34 cks.
Pitch—
Antwerp, 27 cks.
Starch—
Rotterdam, 40 cs.
Tar—
Rotterdam, 10 cks.
Tin Oxalate—
Rotterdam, 6 brls.
Zinc Oxide—
Rotterdam, 50 brls. Simpson, Howden, & Co.

HULL.

Week ending February 24th.

Acetic Acid—
Rotterdam, 9 blns.
Acid—
Bari, 23 cks. Wilson, Sons, & Co., Ltd.
Ammonia—
Hamburg, 1 bg. Wilson, Sons, & Co., Ld.
Asbestos—
Genoa, 8 cs. Wilson, Sons, & Co, Ld.
Barytes—
Rotterdam, 48 cks. Hutchinson & Son
Bremen, 41
Rotterdam, 50 bgs. Storry, Smithson, & Co.
… 36 cs. Blundell, Spence & Co.
Antwerp, 87 cks. 20 bgs. Bailey & Leetham
Camphor—
Hamburg, 1 brl. Wilson, Sons, & Co., Ld.
Castor Oil—
Leghorn, 20 cs. Wilson, Sons, & Co., Ltd.
Cellulose—
Fiume, 306 bls. Wilson Sons, & Co., Ld.

Chemicals *(otherwise undescribed)*
Dunkirk, 56 pks. Wilson, Sons, & Co., Ld.
Bremen 2 cs. Veltmann & Co.
Rotterdam, 2 cks.
Antwerp, 96 pks. Wilson, Sons, & Co., Ld.

Colours—
Hamburg, 1 ck. G. Lawson & Sons
Flushing, 14 pks.
Rotterdam, 17 Hutchinson & Son
" 1 cs W. & C. L. Ringrose
Bremen, 4 Veltmann & Co.
" 13
Antwerp, 8 Bailey & Leetham
Flushing, 11 3 Hutchinson & Son
Rotterdam, 76 pks.
Hamburg, 10 9 Wilson, Sons, & Co, Ltd.
Antwerp, 1 kg.
" 22

Dyestuffs—
Alizarine
Rotterdam, 6 cks. W. & C. L. Ringrose
" 20 pks.
Cutch
Genoa, 7 cs. Wilson, Sons, & Co., Ld.
Shumac
Trieste, 199 bgs. Wilson, Sons, & Co., Ld
Palermo, 1,020 "
" 1,100
Valonia
Smyrna 534 t. 2,390 bgs.

Farina—
Harlingen, 2,082 bgs.
Ghent, 201 bxs. Wilson, Sons, & Co., Ld.
Hamburg, 240 bgs. "

Manganese—
Rotterdam, 28 cks.

Manure—
Aalesund, 165 bgs. Wilson, Sons, & Co., Ld.

Ochre—
Marseilles, 35 cks. Wilson, Sons, & Co., Ld.

Paint—
Marseilles, 16 pkgs. Wilson, Sons, & Co., Ltd.
New York, 52 cs. 64 pks. "

Phosphate—
Antwerp, 100 bgs. E. Kipps & Co.
Ghent, 1,785 bgs. Wilson, Sons, & Co., Ltd.
" 300

Pitch—
Rotterdam, 56 cks. Hutchinson & Son

Plumbago—
Hamburg, 68 cks.
Antwerp, 2 bgs. Bailey & Leetham

Potash—
Rotterdam, 9 cks. W. & C. L. Ringrose
Antwerp, 80 Bailey & Leetham
Rotterdam, 305 bls.

Pumice Stone—
Messina, 68 pks. Wilson, Sons, & Co., Ld.
Marseilles, 1 ck. "

Rosin—
Savannah, 3,158 brls. G. & J. Rawstorn
Wilmington, N.C., 2,338 brls.

Saltpetre—
Hamburg, 200 kgs Wilson, Sons, & Co, Ltd.

Soap—
Naples, 46 cs. Wilson, Sons, & Co., Ld.
Marseilles, 16 "

Sodium Nitrate—
Cologne, 4 cks. J. Good & Sons

Starch—
Bremen, 2,711 cs. Veltmann & Co.

Stearine—
Rotterdam, 29 pks. Wilson, Sons, & Co., Ld.
Antwerp, 25 bgs. "

Sulphur—
Catania, 320 pks Wilson Sons, & Co., Ltd.
" 534 50 t.

Tar—
Amsterdam, 3 cks. Sissons Bros. & Co.

Tartaric Acid—
Rotterdam, 10 cks. Hutchinson & Son

Turpentine—
Savannah, 1,469 cks. G. & J. Rawstorn
Wilmington, N.C., 1,038 brls.

Varnish—
New York, 37 brls. Wilson, Sons, & Co., Ld
Hamburg, 1 cs. "

White Lead—
Rotterdam, 37 cks. Johnson Bros
Cologne, 70
Antwerp, 38 Bailey & Leetham

Zinc White—
Cologne, 30 cks.
Rotterdam, 40 Hutchinson & Son

GLASGOW.

Week ending March 1st.

Acetate of Lime—
New York, 777 bgs.

Acetic Acid—
Rouen, 21 cks.

Barium Sulphate—
Antwerp, 350 bgs. 68 cks.

Barytes—
Rotterdam, 120 cks.

Bone Meal—
Bombay, 3,200 bgs.

Castor Oil—
Antwerp, 256 cks.
Marseilles, 6 89 pkgs.

Chemicals *(otherwise undescribed)*
Rotterdam, 2 cs. J. Rankine & Son

Colours—
Hamburg, 27 pkgs.
Rouen, 1
Rotterdam, 2 cks. 2 cs. 11 brls. 7 bxs. J. Rankine & Son
" 15 pkgs.

Cream of Tartar—
Marseilles, 12 cks.

Dyestuffs—
Alizarine
Rotterdam, 3 brls. 2 bxs. J. Rankine & Son
" 29 pkgs.
Extracts
Baltimore, 50 brls. M'Arthur, Scott, & Co.
" 10
Rouen, 17 cks.
Antwerp, 5
Fustic
New York, 437 pcs.
Logwood
Baltimore, 6,035 blks.
Madder
Marseilles, 6 cks.
Myrabolams
Bombay, 620 bgs.

Farina—
Antwerp, 20 bgs.
Hamburg, 50

Glucose—
New York, 100 brls.

Guano—
Hamburg, 84 bgs.

Iodine—
New York, 2 cs.

Lead Acetate—
Rotterdam, 56 cks. J. Rankine & Son

Naphtha—
Rotterdam, 1 brl. J. Rankine & Son

Ochre—
Marseilles, 225 brls.
Rouen, 5 cks.

Paint—
Boston, 35 cs
New York, 2 brls.

Painters' Colours—
Antwerp, 5 cks.

Paraffin Scale—
New York, 1,018 brls.

Phosphates—
Ghent, 500 bgs.

Pitch—
Dunkirk, 17 brls. P. W. Hall

Potashes—
Rotterdam, 40 cks. J. Rankine & Son
Portland, Me., 28 brls. Rowley & Dick

Pyrites—
Huelva, 1,543 t. Tharsis Co.

Rosin—
New York, 308 brls.

Saltpetre—
Hamburg, 16 cks

Soap—
New York, 751 brls.

Sodium Acetate—
Rouen, 4 cks.

Starch—
Antwerp, 120 cs.
New York, 1,000 bgs
Rotterdam, 65 J. Rankine & Son

Stearine—
Antwerp, 20 bgs.
Rotterdam, 15 cks J. Rankine & Son

Tallow—
Antwerp, 4 cks.
New York, 10 tcs.

Ultramarine—
Antwerp, 5 cs.

Varnish—
New York, 25 brls. 5 cs. 6 bxs.

White Lead—
Dunkirk, 1 ck.
Rotterdam, 58

Zinc Oxide—
Antwerp, 75 cks.
Rotterdam, 10 cks. J. Rankine & Son
New York, 120 brls.

TYNE.

Week ending February 24th.

Alum Earth—
Hamburg, 60 cks Tyne S. S. Co.

Barytes—
Antwerp, 202 bgs. Tyne S.
Colours—
Hamburg, 3 cks 26 dms. 1 Tyne S.
Antwerp, 6 brls. "
Limestone—
Antwerp, 8 crts. Tyne S.
Paint—
Hamburg, 60 cks. Tyne S.
Gothenburg, 1 tin.
Pitch—
Antwerp, 34 cks. Tyne S.
Plumbago—
Antwerp, 20 bgs Tyne S.
Salt—
Hamburg, 700 t. Cleph Wi
Saltpetre—
Hamburg, 20 brls. 3 cks. S.
Starch—
Rotterdam, 140 pkgs. Tyne S.
Stearine—
Antwerp, 19 bgs. Tyne S.
Ultramarine—
Hamburg, 5 cs. Tyne S.
Rotterdam, 4 cks. "
White Lead—
Antwerp, 6 cks. Tyne S.
Zinc Oxide—
Antwerp, 25 brls. Tyne S.

GOOLE.

Week ending February 21st

Acetic Acid—
Antwerp, 20 pkgs.

Alkali—
Calais, 9 cks.

Antimony—
Boulogne, 9 cks.

Caoutchouc—
Boulogne, 2 cks.

Dyestuffs—
Alizarine
Rotterdam, 139 pkgs.
Extracts
Ghent, 100 cks.
Logwood
Jamaica, 1,148 t.

Dyestuffs *(otherwise undescri*
Boulogne, 11 cks. 8 cs. 2 pk
Ghent, 19 2

Farina—
Hamburg, 100 bgs.
Delfszyhl, 454

Glucose—
Calais, 100 bgs.

Potash—
Rotterdam, 21 dms.

Saltpetre—
Hamburg, 10 kgs. 23 cks.

Waste Salt—
Hamburg, 174 cks. 70 t.

GRIMSBY.

Week ending February 24th

Caoutchouc—
Hamburg, 3 cs.

Chemicals *(otherwise undescrib*
Hamburg, 4 cs.

Farina—
Hamburg, 20 bgs.

Indigo—
Rotterdam, 1 cs.

Zinc Ashes—
Antwerp, 34 cks.

EXPORTS OF CHEMICAL PRODUCTS

OF

THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending February 28th.

Acids—
Acajutla, 7 cs. £26
Seville, 4 cks. 18

Alkali—
Delagoa Bay, 15 c. £9

Alum Cake—
Melbourne 5 t £14

Aluminous Cake—
Calcutta, 37 t. £135

Ammonium Chloride—
Rotterdam, 11 c. £20
Sydney, 11 14
Rouen, 1 t. 18 39
Galatz, 16 c. £27
Varna, 12 21

Ammonium Sulphate—
Amsterdam, 201 t. £2,800
Guadeloupe, 62 19 c. 882
Valencia, 101 1,400
Berbice, 16 2 237
Bremen, 150 2,120
Ghent, 70 980
Antwerp, 30 t. £
Hamburg, 15
Ostend, 129 3 1
Rotterdam, 146 6 2

Arsenic—
Yokohama, 3 t.
Sydney, 1

Bisulphite of Lime—
Calcutta, 2 t. 17

Newport News, 5

Benzol

Calcutta, 1 cs.

Creosote Oil

Ghent, 600 brls 2 tks.

Pitch

Cette, 1,200 t.
Galatz, 50 brls
Ibrail, 145
Kurrachee, 125 cks.
Sourabaya, 42

Tar

Ambriz, 9 brls.
Galatz, 315
Ibrail, 240
Marseilles, 1
Talcahuano, 950

Coal Products (*otherwise undes.*)

New York, 25 cks. 161 cs.

Cobalt Oxide—

Gijon, 1 c. £32

Copperas—

Bari,	1 t.	3 c.		£3
Oporto,	10		2 q.	146
Smyrna.	4	10		7

Copper Sulphate—

Galatz,	1 t.	18 c	3 q.	£31
Lisbon,	52	14	1	824
Catania,	5		3	170
Cadiz,	1	9		22
Pachuca,	15			214
Leghorn,	16		1	231
Naples,	64	2	1	942
Venice,	30	14	2	470
Bari,	98	15		1,479
Ancona,	108	1		1,612
Trieste,	10		3	142
Odessa,	5		1	76
Valencia,	25	14	3	350
Messina,	3	2	2	48
Bordeaux,	204			3,052
Barletta,	20	2	3	287
Hamburg,	10	3	2	145
Genoa,	65	17	2	1,027
Palermo,	3	4	1	46
Vigo,	7	6	3	113
San Luis,	10	2		154
Brindisi,	61	2		947
Marseilles,	55	9	1	883
Ibrail,		11		9
Fiume,	3	8	2	53

Disinfectants—

Canada, 12 dms. 3 cs £8

Guano—

Malaga, 10 t. £80
Hamburg, 49 7 c. 222
Valencia, 65 17 3 487

Gypsum—

New York, 72 t. 12 c. £266

Iron Oxide—

B. Ayres, 3 t. 9 c. 3 q. £44

Lime—

Quittah, 3 t. 8 c. £7

Litharge—

Oporto, 4 cks.

Magnesia—

Paris, 75 cs

Magnesium Sulphate—

Rio de Janeiro, 20 brls 50 kgs.
Alexandria, 100

Manure—

Bordeaux,	4 t.	15 c.		£19
St. Malo,	400	4	3	1,710
Havre,	100			298
Antwerp,	48	2	1	186
Genoa,	98	10	2	332
Marseilles,	150	7	3	816
Teneriffe,	5			40

Metallic Sodium—

Rotterdam,	4 t.	13 c.	2 q.	£993
New York,	2	13	1	449

Muriatic Acid—

Pernambuco, 2 cs. £3

Ochre—

Maranham, 5 brls.
Yarmouth, 8

Oxalic Acid—

San Francisco, 1 t. 5 c. £41

Paint—

Durban, 8 dms.
Genoa, 10 3 cs
Havre, 2 3 cks 16 brls. 38 kgs.
Jamaica, 1
Lagos, 12
Marseilles, 1 39 tins.
Matanzas, 3
M. Video, 1
Nassau, 11 30
Old Calabar, 54
Sagua la Grande, 1
San Juan, 6
Santiago de Cuba, 3
Valparaiso, 26
Calcutta, 4 cks. 21 dms.
Callao, 138
Cape Town, 30
Colombo, 1 cs.
Constantinople, 2
Galatz, 2 100
Gothenburg, 40 bgs.
Half Jack, 2
Havana, 2
Hiogo, 40
Maceio, 53 pkgs.
Pernambuco, 80
Puerto Plata. 5
Rio Grande do Sul, 4
Rotterdam, 4
Shanghai, 20
Sierra Leone, 6
Vera Cruz, 4

Painters' Colours—

Babia, 2 cs 40 brls.
Baltimore, 107 cks.
Boston, 2 140
B. Ayres, 71 440 kgs. 25 crts.
Callao, 10 100 120
Cartagena, N G, 100
Halifax, 55
Hamburg, 12 100 bgs.
Humacao, 3 brls. 1
Maranham, 7
New York, 14
Philadelphia, 312
Ponce, 2
Rio de Janeiro, 11 100 1 cs.
Sagua la Grande, 1 5 tcs.
Salonica, 3
San Juan, 100
Smyrna, 10
Vera Cruz, 1
Amsterdam, 4 6 dms.
Antwerp, 2 7 3
Bilbao, 3
Brass, 40
Macassar, 20
Newport News, 208 30

Paraffin Wax—

Bari, 6 bgs. 20 cs.
Smyrna, 6
Syra, 22
Para, 2 cks.

Phosphorus—

Shanghai, 45 cs. £450
Kobe, 15 193
Yokohama, 15 193
Mexico, 6 66

Plumbago—

Santander, 1 ck.

Potassium Bichromate—

Pernambuco, 5 c. £14

Potassium Chlorate—

Philadelphia,	6 t.	5 c	0 q.	£358
Sydney,	1	10		92
New York,	16			946
Odessa,	2			120
Shanghai,	6	5		379
Cape Town,	1			56
Oporto,	1	5		71
Boston,	5			286
Naples,	1			56
Ystad,	1			56
Hamburg,	5			286
Yokohama,	7	10		444
B. Ayres,	5			286
Vera Cruz,	2			136
Mexico,	1	10		102

Potassium Silicate—

Amsterdam, 1 t. 4 c. 3 q. £5

Salt—

Antwerp,	15 t.	
Calcutta,	6,499	
Cameroons,	40	15 c.
E. London,	18	18
Ghent,	100	
Gr. Bassam,	25	
Jamaica,	18	
Montreal,	289	
Naqui,	14	5
Natal, Bzl,	323	15
Newport News,	200	
St. John's, N.B,	450	
Accra,	5	
Boston,	20	
B. Ayres,	8	10
Chicago,	165	
Clarence,	4	10
Colombo,	16	
Conakry,	100	
Dunedin,	50	
Gaboon,	6	15
Gr. Bassa,	19	
Halifax,	9	12
Lagos,	200	
Monrovia,	4	9
New York,	1,216	10
Old Calabar,	270	
Opobo,	115	
Santos,	3	
Sierra Leone,	611	11
Sinoe,	7	
Sydney,	698	
Talcahuano,	1	
Trinidad,	28	3
Wellington,	60	

Saltcake—

Antwerp,	230 t.		£230
Ghent,	100		83
Baltimore,	25	12	48

Saltpetre—

Maranham,	1 t.		£25
Para,	1		23
Cabedello,	1	14	40
Pernambuco,	6	5	150
Yarmouth, N.S.,		5	6

Sheep Dip—

B. Ayres,	17 t.	17 c.	£500
M. Video,	3	5	50

Silver Nitrate—

Hong Kong, 1 cs. £15

Soap—

Abonnema,		3 cs.	
Algoa Bay,	257 bxs.		
Amsterdam,	50		
Antigua,	125		
Bakana,		1	
Baltimore,	19		
Belize,	445		
Bombay,	750	20	
Buguma,		1	
Calcutta,		20	
Canada,		1	
Cape Town,	1,620		
Curacao,	217		
Demerara,	40		
E. London,	2,181	45	
Genoa,	75		
Gibraltar,	200		
Gr. Bassa,	79		
Guayaquil,	50	50	
Hamburg,	1,405		
Havre,		120	
Hong Kong,	400		
Iquitos,	100		
Kingston, Jam.,	827	5	1 bl.
Kurrachee,		6	
Lisbon			1 ck.
Mossel Bay,	620		
New York,	15	3	
Para,	200		
Patras, 13 pkgs.			
Philadelphia,	50		
Piræus,	90	5	
Ponce,	50		
Pt Elizabeth,	600		
Pt. Natal,	1,400		
Rebate,	225		
Rotterdam,	1,000	400	
Shanghai,	4,600		
Trinidad,	1,700		
Warri,	20		
Alexandria,	35		
Antwerp,	100	120	
Barbadoes,	200		
Colon,		25	
Constantinople,		11	
Lagos,	140		
Las Palmas,	92		
Maceio,	20		
Madras,		20	
Montreal,		400	
Rangoon,	150		
Singapore,			40 kgs
Sydney.		1,480	
Teneriffe,	120		

Soda—

Montreal, 1 ck.
Toronto, 5 cs.

Soda Alkali—

Buffalo, 60 brls.
Genoa. 135
Marseilles, 20
St. John, N.B., 35
Sydney, 110

Soda Ash—

Baltimore,	245 cks.		1,515 bgs.
Barcelona,	55		
Boston,	129	32 tcs.	3,260
Calcutta,	8		
Chicago,			600
Genoa,	50		200
Hamburg,	15		225
Montreal.			167
New York,	138		3,189
Philadelphia,	268	150	5,680
Rio de Janeiro,		50 brls.	
Smyrna,		100	
Sydney,	102		
Antwerp,	10		200
Bari,			200
B. Ayres,		100	
Copenhagen,			60
Ghent,	33		
Gothenburg,			90
Halifax,	5		
Havana,	6		
Latakia,		150	
M. Video,		25	
Oporto,	8		
Syra,		30	
Trieste,	9		

Soda Crystals—

Philadelphia	165 cks.		
St. John's, N B,		50 kgs.	
San Francisco,		250 brls.	
Boston,		280	
Halifax,		20	
Havana,	8		
Malta,		50	
Manila,		10	
New York,		140	

Sodium Arseniate—

Boston, 8 cks.

Sodium Biborate—

Antwerp, 20 cks.
Hamburg, 40
Yokohama, 50 c.

Sodium Bicarbonate—

Ancona,	60 kgs.		
Antwerp,	100	20 cks.	
Bari,	20		
Bordeaux,	110		
Calcutta,	100		
Catania,	80		
Galatz,	60		
Genoa,	15	10	
Havre,	320	5	
Hong Kong.	30		
Kingston, Jam.,	20		
Malaga,	50		
Malta. 10 bgs.			
Marseilles,	24		
Montreal,	100		
Nantes,	45		
Odessa,		810	
Panama,			
Philadelphia,	100		
St. Stephens, N B.,	100		
Singapore,			
Smyrna,	60		
Toronto,	50		
Trieste,	30	13	
Venice,	60		
Amsterdam,	50		
Halifax,	40		
Havana,	25		
Rotterdam,	20		
Stamboul,	20		
Sydney,	120		

Sodium Chlorate—

Genoa,	10 kgs		
Hamburg,	36	30 brls.	
New York,	100		

Sodium Oxide—

New York, 8 cs.

Sodium Silicate—

Alicante,	35 brls.		
Barcelona,	85	60 cks.	
Madeira,	5		
Piræus,	10		
Sfax,	10		
Sydney,		12	

Sodium Sulphate—

Trieste, 21 brls.

Strontia—

Bremen, 50 t. 8 c.

Sulphur—

Cabedello,	1 t.	3 c.	2 q
Boston,	300	6	
Halifax,		7	
Tampico,	1	4	1
Calcutta,	2	2	3

Superphosphate—

Valencia,	75 t.	1 c.	1 q.
Bordeaux,	49	4	1
Gr. Canary,	1		

Tartaric Acid—

Hamburg, 1 c. 3 q.
Algoa Bay,

Turpentine—

Manila, 100 dms.
Salonica, 2 brls.
Lagos, 10

Varnish—

Accra,	1 cs.	
Colombo,	2	
Leghorn,	4	
Lisbon,	1	1 dm.
Madras,	5	
Montreal,	4	3 cks.
Old Calabar,		10
Paranagua,	1	
Bilbao,		4

Wood Spirit—

Calcutta, 20 cs.

Zinc Chloride—

Bombay, 10 t. 12 c.

MANCHESTER.

Week ending February 28th.

Ammonium Chloride—
Tripoli, 5 brls.
Carbolic Acid—
Rotterdam, 106 cks.
Chemicals (*otherwise undescribed*)
Hamburg, 1 ck.
Rotterdam, 10
Chloride of Sulphur—
Treport, 2 cs.
Colours—
Antwerp, 1 cs.
Hamburg, 1
Rotterdam, 1 ck.
Treport, 1
Paraffin Wax—
Treport, 20 cs.
Sodium Chlorate—
Rotterdam, 1 ck.
Tallow—
Rotterdam, 1 ck.
Tar Oil—
Treport, 35 dms.

HULL.

Week ending February 24th.

Alkali—
Hango, 50 cks.
Ammonium Sulphate—
Ghent, 1,793 bgs.
Hamburg, 959
Liban, 51
Rotterdam, 791
Bleaching Powder—
Boston, 120 cks.
Naples, 31
Borax—
Antwerp, 30 cks.
Christiania, 2
Copenhagen, 6
Rotterdam, 10
Caustic Soda—
Antwerp, 16 cks.
Hango, 11
Libau, 190 dms.
Naples, 42
Chemicals (*otherwise undescribed*)
Boston, 100 cks.
Christiania, 25 4 cs. 10 pkgs.
Copenhagen, 13 1
Constantinople, 32
Genoa, 22
Gothenburg, 4 5 10
Hamburg, 8 45 3 pks.
Harlingen, 20
Konigsberg, 4
Liban, 12
Marseilles, 5
Odessa, 271
Reval, 32 255
Cottonseed Oil—
Antwerp, 1,005 c.
Amsterdam, 42
Bremen, 336
Christiania, 10
Copenhagen, 200
Drontheim, 31
Gothenburg, 50
Hamburg, 1,325
Konigsberg, 134
Marseilles, 643
Rotterdam, 2,446
Creosote—
Gothenburg, 5 cks.
Dyestuffs (*otherwise undescribed*)
Christiania, 10 bls.
Gothenburg, 4 cs.
Hamburg, 8 1 ck.
Liban, 1 6
Rouen, 4
Rotterdam, 1
Reval, 5 94
Stettin, 80 bgs.
Linseed Oil—
Antwerp, 11 c.
Bergen, 24
Christiania, 452
Copenhagen, 17
Drontheim, 88
Hamburg, 319
Hango, 34
New York, 178
Stavanger, 97
Logwood—
Antwerp, 80 bls.
Manure—
Antwerp, 144 bls.
Ochre—
Hamburg, 5 cks.
Rotterdam, 1
Paint—
Bergen, 1 cs.
Christiania, 2 cks.
Ghent, 1
Painters' Colours—
Antwerp, 78 cks. 1 cs.
Amsterdam, 2
Bergen, 42 140 42 dms.
Bremen, 43
Boston, 25
Christiania, 1 281 pkgs.
Copenhagen, 1 16 dms.
Dunkirk, 1
Drontheim, 4
Ghent, 10
Genoa, 25
Gothenburg, 1 111
Hamburg, 22 2
Hango, 10
Leghorn, 4
Marseilles, 7
New York, 60
Odessa, 40
Rouen, 2
Rotterdam, 12 1 10
Stettin, 7
Pitch—
Antwerp, 204 t.
Dunkirk, 71
Naples, 129 103 cks.
Tar—
Amsterdam, 6 cks.
Bremen, 10
Copenhagen, 12
Ghent, 200
Hamburg, 3
Stettin, 1 cs.
Varnish—
Antwerp, 4 cs. 2 cks.
Amsterdam, 3
Christiania, 2 dms
Copenhagen, 1 cs. 2 bls
Drontheim, 1
Gothenburg, 1 8
Hamburg, 1
Harlingen, 1

GLASGOW.

Week ending March 1st.

Acid—
Bombay, 13 t. 10½ c. £66
Ammonia—
Philippines, £33 17s.
Ammonium Sulphate—
Trinidad, 9 t. 2¾ c. £127
Demerara, 258 5 3,545
Mauritius, 148 7½ 2,030
New York, 20 10¼ 264
Boracic Acid—
Rouen, 1 t 19½ c. £71
Castor Oil—
Cape Colony, 1 t. 6 c. £27
Caustic Soda—
Philippines, 14 t. 9¾ c. £128
Chloride of Lime—
New York, 4 t. 11¾ c. £37
Coal Products—
Pitch
Calcutta, £24
Portland, Me, 92 t. 13 c. 135
Antwerp, 29 8 £31 10s.
Santander, 1,200 £1,680
Tar
Hamburg, 10 rnlts. £5
Calcutta, 50
Boston, 49 t. 5½ c. 90
Malmo, 15 15 28
Christiania, 25 brls. 44
Tar Oil
Hamburg, 1 ck. 11s.
Coal Tar Products (*otherwise undescribed*)—
Rotterdam, 20 t. £152
Cottonseed Oil—
Demerara, 827 glns. £83
Stettin, 585 59
Dyestuffs—
Extracts
Boston, 1 t. 3 c. £52
Glucose—
Cape Colony, 2 t 18½ c. £28
Guano—
Demerara, 30 t. £360
Iodine—
Hamburg, 10 cks. £3,800
Linseed Oil—
Demerara, 2 t. 10 c. £52
Cape Colony, 3 t. 1 c. £85
Mauritius, 17 22
Portland, Me, 8 14¼ 177
Litharge—
Bombay, 2 t. 1½ c. £26
Magnesium Sulphate—
Christiania. 15 t. £45
Manganese—
Hamburg, 4 t. 8 c. £40
Manganese Oxide—
New York, 10 t. 3 c. £105
Manure—
Trinidad, 70 t. £517
New York, 15 9½ c. 64
Ochre—
New York, 5 t. 12 c. £89
Paint—
Demerara, £97
Straits, 2 t. 17 c. 37
Colombo, 2 9½ 26
Bombay, 5 28
Painters' Colours—
Cape Colony, £123
Trinidad, 3 t. 9¾ c. 90
Mauritius, 4 10 51
Christiania, 2 2 45
Straits, 7 17¼ 119
Philippines, 14 8½ 187
Boston, 35
Paraffin Wax—
Cape Colony, 4 t. 13¼ c. £139
Stettin, 2 1½ 50
Bilbao. 8 15¼ 205
Bordeaux, 10 2¾ 260
Potash Salts—
Cape Colony, 29 t. 4 c. £2 576
Potassium Bichromate—
Amsterdam, 14 cks. £219
Boston, 5 t. 15½ c. 230
Bombay, 3 2 117
Salt—
Mauritius, 130 t. £125
Brisbane, 300 285
Soap—
Cape Colony, 2 t. 10 c. £40
Trinidad, 11 12 190
Demerara, 9 15 159
Bombay, 1 19¾ 29
Soda Ash—
Calcutta, 4 t. 15 c. £30
New York, 15 14¼ 50
Sodium Bichromate—
Rouen, 4 t. 19¾ c. £163
Boston, 1 1 36
Bombay, 2 7 72
Sulphuric Acid—
Cape Colony, 3 t. £22
Demerara, 6 17½ c. 75
Superphosphates—
Mauritius 100 t. £500
Malmo, 98 10¼ 370
Tallow—
Rotterdam, 7 t. 5 c. £200
Tar Acids—
Boston, 22 t. 16 c. £35
Tartaric Acid—
Hamburg, 1 ck. £30
Turpentine—
Straits, 225 glns. £25
Philippines, 4 t. 4¼ c. 121
White Lead—
Seville, 1 c. £1

TYNE.

Week ending February 24th.

Alkali—
Antwerp, 5 t. 7 c.
Christiania, 2 8
Amsterdam, 25
Odense, 12
Venice. 21 8
New York, 25 3
Alum Cake—
Copenhagen. 10 t.
Ammonia Alkali—
Odense, 5 t.
Ammonium Sulphate—
New York, 30 t.
Antimony—
Hamburg, 10 t.
Arsenic—
Libau, 1 t.
New York, 12 6 c.
Barium Binoxide—
Dunkirk, 10 t.
Barium Carbonate—
Copenhagen, 1 t.
New York, 100
Bleaching Powder—
Lisbon, 16 t. 2 c.
Antwerp, 5 1
Christiania, 31 8
Barcelona, 1 6
Leghorn, 15 14
Naples, 2 13
Rotterdam, 9 18
Amsterdam, 42 12
Copenhagen, 17 14
Venice, 1 14
New York, 225 4
Carbolic Acid—
Rotterdam, 5 t. 13 c.
Caustic Soda—
Antwerp, 19 t. 17 c.
Hamburg, 1 10
Christiania, 2 18
Bari, 37 13
Rotterdam, 10 10
Amsterdam, 15 1
Venice, 1 9
New York, 126 1
Litharge—
Copenhagen, 1 t. 9 c.
Magnesia—
Antwerp, 1 t. 9 c.
Hamburg, 1
Barcelona, 6 8
Manure—
Valencia, 160 t.
Oxalic Acid—
New York, 12 t. 7 c.
Paint—
Antwerp, 11 c.
Hamburg, 10
Rotterdam, 3
Bergen, 1 t.
New York, 6
Soda—
Hamburg, 11 t. 11 c.
Christiania, 5
Rotterdam, 10
Amsterdam, 77 10
Christiansund, 5 4
New York, 4 1
Soda Ash—
Lisbon, 25 t. 8 c
Hamburg, 13 19
Christiania, 2 15
Venice 17 1
Sodium Silicate—
Antwerp, 5 t. 4 c.
Barcelona, 5 15
Sodium Sulphate—
Venice, 10 c.
Superphosphate—
Venice, 100 t. 1 c.
Tallow—
Antwerp, 58 t. 15 c.
White Lead—
Antwerp, 5 c.
Lisbon, 2 t. 6
Copenhagen, 1 14
New York, 2 10
Zinc Ashes—
Antwerp, 1 t. 17 c.

GOOLE.

Week ending February 21st.

Alkali—
Ghent, 6 cks.
Chemicals (*otherwise undescribed*)
Boulogne, 20 cks.
Rotterdam, 71
Coal Products (*otherwise undes.*)—
Antwerp, 35 cks.
Boulogne, 53 2 cs.
Ghent, 8 1
Dyestuffs (*otherwise undescribed*)
Hamburg, 22 cks.
Manure—
Bruges. 203 bgs.
Hamburg, 250
Rotterdam, 195
Pitch—
Antwerp, 360 t.

GRIMSBY.

Week ending February 24th.

Chemicals (*otherwise undescribed*)
Dieppe, 11 cks. 1 cs. 46 btls.
Hamburg, 1 6
Savanilla, 52 dms.
Coal Products (*otherwise undes.*)
Dieppe. 50 cks. 25 brls.
Dyestuffs (*otherwise undescribed*)
Dieppe, 2 kgs.

PRICES CURRENT.

WEDNESDAY, March 7th, 1894.

Prepared by Messrs. Higginbottom and Co., 116, Portland Street, Manchester.

The values stated are F.O.R. at maker's works, or at usual ports of shipment in U.K. The price in different localities may vary.

	£	s.	d.
Acids:—			
Acetic, 25 °/₀ and 40 °/₀ .. .. per cwt.	7/- & 11/-		
,, Glacial .. .. ,,	50/-		
Arsenic S.G., 2000° .. .. ,,	0	14	6
Fluoric .. .. per lb.	0	0	3¼
Muriatic (Tower Salts), 30° Tw. .. .. .. per bottle	0	0	10
,, (Cylinder), 30° Tw. .. .. ,,	0	3	0
Nitric 80° Tw. .. .. per lb.	0	0	1¾
Nitrous .. .. ,,	0	0	1¾
Oxalic .. .. nett ,,	0	0	3¾
Phosphoric, 1750° .. .. ,,	0	1	2½
Picric .. .. ,,	0	1	0
Sulphuric (fuming 50 °/₀) .. .. per ton	15	10	0
,, (monohydrate) .. .. ,,	5	10	0
,, (Pyrites, 168°) .. .. ,,	3	0	0
,, ,, 150° .. .. ,,	1	5	0
,, (free from arsenic, 145°) .. .. ,,	1	6	0
Sulphurous (solution) S.G. 1025 .. .. ,,	3	0	0
Tannic (pure) .. .. per lb.	0	1	2
Tartaric .. .. ,,	0	0	11
Arsenic, white powdered .. .. nett per ton	14	0	0
Alum (loose lump) .. .. ,,	5	2	6
Alumina Sulphate (pure) .. .. ,,	5	0	0
Aluminoferric .. .. ,,	2	10	0
Aluminium .. .. per lb.	0	3	0
Ammonia, Anhydrous .. .. ,,	0	1	3
,, ·880=28° .. .. per lb.	0	0	3
,, =24° .. .. ,,	0	0	2¼
,, Carbonate .. .. nett ,,	0	0	3¾
,, Muriate .. .. per ton	25	10	0
,, ,, (sal-ammoniac) 1st & 2nd .. per cwt.	39/- & 37/-		
,, Nitrate .. .. per ton	44	0	0
,, Phosphate .. .. per lb.	0	0	10½
,, Sulphate (grey) London .. .. .. per ton	13	17	6
,, ,, (grey) Hull .. .. ,,	13	15	0
Aniline Oil (pure) .. .. per lb.	0	0	5¾
Aniline Salt ,, ... ,,	0	0	5½
Antimony .. .. per ton	45	10	0
,, (tartar emetic) .. .. per lb.	0	1	0
,, (golden sulphide) .. .. ,,	0	0	10
Barium Chloride .. .. per ton	6	15	0
,, Carbonate (native) .. .. ,,	3	10	0
,, Sulphate (native levigated) .. .. .. ,,	45/- to 75/-		
Bleaching Powder, 35 % .. .. nett ,,	7	10	0
,, Liquor, 7 % .. .. ,,	3	10	0
Bisulphide of Carbon .. .. ,,	11	15	0
Chromium Acetate (crystal) .. .. per lb.	0	0	6
Calcium Chloride .. .. per ton	2	5	0
China Clay (at Runcorn) in bulk .. .. .. ,,	17/6 to 35/-		
Coal Tar Products and Dyes:—			
Alizarine (artificial) 20 % .. .. .. net per lb.	0	0	8
Magenta .. .. ,,	0	3	9
Anthracene, 30 % A, f.o.b. London .. per unit per cwt.	0	1	1
Benzol, 90 % nominal .. .. .. per gallon	0	1	3
,, 50/90 ,, ... ,,	0	1	4
Carbolic Acid (crystallised 40°) .. .. . per lb.	0	0	6¼
,, (crude 60°) .. .. per gallon	0	1	8
Creosote (ordinary) .. .. ,,	0	0	2½
,, (filtered for Lucigen light) .. .. ,,	0	0	3
Crude Naphtha 30 % @ 120° C. .. .. .. ,,	0	0	6¾
Grease Oils, 22° Tw. .. .. per ton	2	5	0
Pitch, f.o.b. Liverpool or Garston .. .. .. ,,	1	7	0
Solvent Naphtha, 90 % at 160° .. .. .. per gallon	0	1	2½
"Lucigen" and "Wells Oils .. .. ,,	0	0	2½
Copper .. .. per ton	40	15	0
,, Sulphate .. .. ,,	15	10	0
,, Oxide (copper scales) .. .. ,,	40	0	0
Glycerine (crude) .. .. ,,	13	0	0
,, (distilled S.G. 1250°) .. .. ,,	43	0	0
Iodine .. .. nett, per oz.	0	0	9
Iron Sulphate (copperas) .. .. per ton	1	10	0
,, Sulphide (antimony slag) .. .. ,,	2	0	0
Lead (sheet) for cash .. .. ,,	10	10	0
,, Litharge Flake (ex ship) .. .. ,,	13	0	0
,, Acetate (white ,,) .. .. ,,	26	0	0
,, ,, brown ,,) .. .. ,,	17	10	0
,, Carbonate (white lead) pure .. .. .. ,,	20	0	0
,, Nitrate .. .. ,,	20	0	0
Lime, Acetate (brown) .. .. per ton	6	10	0
,, ,, (grey) .. .. ,,	10	5	0
Magnesium (ribbon and wire) .. .. per oz.	0	2	3
,, Chloride (ex ship) .. .. per ton	2	10	0
,, Carbonate .. .. per cwt.	1	17	6
,, Hydrate .. .. per ton.	17	0	0
,, Sulphate (Epsom Salts) .. .. .. per ton	2	19	0
Manganese, Sulphate .. .. ,,	17	15	0
,, Borate .. .. per cwt.	2	12	6
,, Ore, 70 % .. .. per ton	4	5	0
Methylated Spirit, 61° O.P. .. .. per gallon	0	2	2
Naphtha (Wood), Solvent .. .. ,,	0	3	9
,, ,, Miscible, 60° O.P .. .. .. ,,	0	5	0
Oils:—			
Cotton-seed .. .. per ton	22	0	0
Linseed .. .. ,,	21	10	0
Petroleum, Russian .. .. per gallon	0	0	3⅝
,, American .. .. ,,	0	0	5½
Phosphorus (yellow) .. .. per lb.	0	2	2
,, (red) .. .. ,,	0	2	9
Potassium (metal) .. .. per oz.	0	3	7
,, Bichromate .. .. nett per lb.	0	0	4½
,, Carbonate, 90% (ex ship) .. .. .. per ton	16	15	0
,, Chlorate .. .. per lb.	0	0	7½
,, Cyanide, 98% .. .. ,,	0	2	0
,, Hydrate (Caustic Potash) 80/85 % .. per ton	21	15	0
,, ,, (Caustic Potash) 75/80 % .. ,,	20	10	0
,, ,, (Caustic Potash) 70/75 % .. ,,	20	0	0
,, Nitrate (refined) .. .. per cwt.	1	2	6
,, Permanganate .. .. per cwt.	3	5	0
,, Prussiate Yellow .. .. per lb.	0	0	10¾
,, Sulphate, 90 % (ex ship) .. .. .. per ton	9	15	0
,, Muriate, 80 % (do.) .. .. .. ,,	8	5	0
Silver (metal) .. .. per oz.	0	2	3⅞
,, Nitrate .. .. ,,	0	2	10
Sodium (metal) .. .. per lb.	0	3	4
,, Carb. (refined Soda-ash) 48 % .. nett per ton	5	0	0
,, ,, (Caustic Soda-ash) 48 % . ,, ,,	4	2	6
,, ,, (Carb. Soda-ash) 48% .. .. ,, ,,	4	2	6
,, ,, (Carb. Soda-ash) 58 % .. .. ,, ,,	4	2	6
,, ,, (Soda Crystals) .. .. .. ,, ,,	3	0	0
,, Acetate (ex-ship) .. .. ,,	14	15	0
,, Arseniate, 45 % .. .. ,,	11	0	0
,, Chlorate .. .. per lb.	0	0	8¾
,, Borate (Borax) .. .. net, per ton.	28	0	0
,, Bichromate .. .. ,, per lb.	0	0	3¾
,, Hydrate (77 % Caustic Soda) (f.o.b.) net pr. ton	10	15	0
,, ,, (74 % Caustic Soda) ,, ,, ,,	10	5	0
,, ,, (70 % Caustic Soda) ,, ,, ,,	9	5	0
,, ,, (60 % Caustic Soda) .. ,, ,,	8	5	0
,, ,, (60 % Caustic Soda, cream) (f.o.b.) ,,	8	0	0
,, Bicarbonate .. .. ,,	6	12	6
,, Hyposulphite .. .. ,,	5	15	0
,, Manganate, 30% .. .. ,,	16	0	0
,, Nitrate (95 %) ex-ship Liverpool .. .. per cwt.	0	9	4½
,, Nitrite, 98 % .. .. per ton	29	10	0
,, Phosphate .. .. ,,	15	0	0
,, Silicate (glass) .. .. per ton	5	7	6
,, ,, (liquid, 100° Tw.) .. .. .. ,,	4	5	0
,, Stannate, 40 % .. .. per cwt.	3	0	0
,, Sulphate (Salt-cake) .. .. per ton.	0	17	6
,, ,, (Glauber's Salts) .. .. ,,	1	5	0
,, Sulphide .. .. ,,	8	10	0
,, Sulphite .. .. ,,	5	15	0
Strontium Hydrate, 100% .. .. ,,	8	10	0
Sulphocyanide Ammonium, 95 % .. .. per lb.	0	0	7½
,, Barium, 95 % .. .. ,,	0	0	5
,, Potassium .. .. ,,	0	0	7½
Sulphur (Flowers) .. .. per ton.	7	12	6
,, (Roll Brimstone) .. .. ,,	5	17	6
,, Brimstone: Best Quality .. .. ,,	4	0	0
Superphosphate of Lime (26%) .. .. ,,	2	7	6
Tallow .. .. ,,	28	0	0
Tin (English Ingots) .. .. ,,	70	0	0
Tin Crystals .. .. per lb.	0	0	6¾
Zinc (Spelter) .. .. per ton	15	15	0
,, Chloride (solution, 96° Tw.) .. .. .. ,,	5	15	0

F.O.R. — 10 ton lots

THE

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AND

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es, reports, and correspondence on all matters of interest to the l and allied industries, home and foreign, are solicited. ndents should condense their matter as much as possible, one side only of the paper, and in all cases give their names resses, not necessarily for publication. Sketches should be eparate sheets.

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rtisements intended for insertion in the current week's issue each the office by **Wednesday morning** at the latest.

CURRENT TOPICS.

ELECTRICITY AND SEWAGE.

THE latest contribution to the sewage disposal question is an electrolytic process. The process is not exactly new, as it has been known on the Continent for some time, but it is to a certain extent fresh in this country, although the basis of the method of treatment is really a modification of one of the earlier processes which was to effect the cheap production of bleach and alkali by electrolysis. The Hermite process will be familiar to most of those who have had anything to do with the chemical industry, and it is this system of producing hypochlorites of sodium and magnesium, which is being tried at Worthing for the treatment of sewage. The idea as propounded by M. Hermite is undoubtedly very neat, but, unfortunately, the notion takes a lot of carrying out. Granted that the disinfecting fluid can be cheaply prepared, and is perfectly effective in action, the cost of duplicating the present water service in inland towns is likely to prove prohibitive when it comes to actually adopting the process. In addition to this there is the increased cost of preparing the imitation sea water to be electrolysed, the preparation of which will entail a certain outlay for chemicals and apparatus for the manufacture and storage of this artificial solution.

If, however, this system of treatment was found to be applicable with success to seaside places only, it would be worthy of commendation. This fact has yet to be satisfactorily established though. The method of disposing of the solids in the sewage is hardly made as apparent as it might be. So far we have not been acquainted with any data to show that subsequent putrefaction will not occur; and this is a most important point to be considered when the inland use of the process is contemplated, even if it is of secondary importance where the disinfected sewage can soon be discharged into the sea. It is essential, however, that these points should be thoroughly cleared up before the process can be held to rank among the processes fitted to compete for the honour of solving the sewage problem. Moreover, the imperativeness of such details being explicitly explained, is increased tenfold by the fact that the computed cost of one shilling per head per annum, to put it mildly, does not altogether agree with the cost as calculated from such figures as have been made public. The difficulties in the way of sewage disposal are quite serious enough as things are now, and so far the Hermite process promises to multiply rather than minimise them.

A SILENT PROTEST.

The manifold attempts which have been made to stir up the Government to do something in the way of amending our petroleum legislation have, so far, after much reiteration, extorted an admission of the possible fallibility of our present laws. We are, no doubt, a long way off the day when the public will be told why they have for so many years been subjected to the indignity and danger of burning the bad oils

which Americans and other nationalities refuse to use. It is an equally remote chance that we shall ever learn why the importation of cheap and nasty oils is encouraged, to swell the profits of foreigners at the expense of a home industry. It would, however, be a merited act of Nemesis if the need to invoke the protection and assistance of our stolid legislators were to be removed by the kindly assistance of bounteous Nature; but we have not enjoyed so far the privilege of possessing flowing oil wells in this country, and though the discovery of petroleum in Somersetshire may be the harbinger of greater things, still as yet the matter is of comparative insignificance.

It is, however, a somewhat singular coincidence that the little oil, which Mother Earth has deigned to furnish us with in this country, should be of such exceptional quality. When such strenuous efforts are being made to keep dangerous oils out of the country, and such apathy is manifested in certain quarters upon what is a question of so many lives being saved yearly, rather than a matter of purely commercial bearing, it seems almost as if Nature was delivering a cynical and silent reproach in presenting to our notice a natural oil of such singular quality and such an abnormally high flashing-point as that which has been found at Ashwick. Court. The chances, however, that this oil will be found to exist in sufficient quantities to pay for working are small, and so, in the interest of those who have to burn oils only a few degrees above the legal minimum flash-point, it is advisable to press the new Government harder than ever to institute an inquiry into the existing laws regulating the admission of petroleum into this country.

TEMPUS OMNIA FACIT.

So the change has been made at last, and fittingly into the bargain. The Government laboratories are to be under one Head, and that an energetic and business-like Head. Little and good runs the adage, and we trust it will prove true in this instance. It is unfortunate that some of those who hoped to see the metamorphoses of time accomplished will never do so, but to those who have been waiting ten years and more the fulfilment of their hopes will be proportionately satisfying. Analysts in general can congratulate themselves that they will no longer have to put up with the incongruities which have characterised the past. They may live in hopes that now, the presence of chicory in coffee, beef fat in lard, and what not, when in dispute, will be settled in such a manner as to leave no room for doubt in the minds of chemists. The recent experiences of Mr. Stock may also, we dare venture to think, never be repeated for many a day to come; while without excessive temerity the hope may surely be entertained that since compensation is to be made for "loss of prospects" to the Government chemists, there will be a cessation of the heartburnings endured by ordinary analysts, engendered by the performance of water analyses "on the cheap" for extraneous sources.

A Substitute for Cocoa.—Uncooked cocoa, from which the oil has been abstracted is, it is suggested by a foreign patent, to be mixed with oats which have previously been crushed, roasted, ground, then mixed with water, boiled, dried, and subsequently reduced to powder, thereby forming a compound suitable as a cocoa substitute. It sounds somewhat formidable.

He Found It.—Recently an alarming explosion took place in a shop in Market-street, Hebden Bridge, where some alterations where going on. An escape of gas was noticed, and one of the workmen, a plumber, went in search of the leak with a lighted candle, and the moment the man put the light into a box a loud explosion occurred. A large piece of lead flashing, as well as part of the woodwork, was blown into the street. The plumber escaped with a shaking.

Parliamentary Jottings.

TECHNICAL EDUCATION.

In the House of Lords on Tuesday last Lord Norton gave notic he would move on an early date for a return of the various mo which the technical education grants are being spent by the C Councils receiving a share of them.

NOTICES OF BILLS.

The following are a few of the notices of new Bills of interest readers which have been given in the House of Commons:—

Mr. Mundella: A Bill to make better provision for the settlem labour disputes.

Mr. Asquith: A Bill to amend and extend the law relat factories and workshops.

The Lord Advocate: A Bill to make provision for public inqu regard to fatal accidents occurring in industrial employments and pations in Scotland.

Mr. Burt: A Bill to provide for inquiring into accidents in employments in England.

Mr. Burns: A Bill to provide for an eight hours day.

OIL FUEL.

In the House of Commons on Tuesday Mr. T. G. Bowles ask Secretary of the Admiralty whether his attention had been called statement that the British steamer "Baku Standard" had arri Philadelphia after having crossed the Atlantic propelled by generated from oil fuel alone, and whether the Government were ing out any experiments with a view to ascertaining the adaptabi oil fuel for use in Her Majesty's ships.

Sir U. Kay-Shuttleworth: Nothing is known at the Admiralty statement to which the hon. gentleman refers. No experiments oil fuel are now going on in Her Majesty's ships; nor have an conclusions been arrived at by the Admiralty on the subject sin answers to the hon. member's previous questions.

Our Book Shelf.

The Chemical Manufacturers' Directory. 100 pp. Lo Simpkin, Marshall, Hamilton, and Kent. 1894. 2s. 6d.

This Directory, which is now in its twenty-sixth edition, con a list of the chief manufacturers of chemicals used in agriculture, merce, &c. The present edition is an advance upon the las pages are by no means free from defects, but as this feature claimed as a distinction, special comment is hardly justifiable, t some of the errors are scarcely *minutiæ*. In addition to the l chemical manufacturers, there is also a list of the principal ch agents and brokers in London. One of the most useful sections devoted to a classification of the makers of certain chemicals. the various headings, numbering over two hundred, the names principal makers in London and country are to be found, s reference to makers of certain classes of chemicals is quite ar matter. Altogether the Directory fulfils its pretensions, and w found in the majority of cases a useful source of information.

The Alchemical Essence of the Chemical Element M. M. Pattison Muir. 94 pp. London: Longmans Green ar 1894. 4s. 6d.

A very readable book comparing the methods of the ancient alc with those of the modern chemist. To all who can afford a cou hours mental excursion into the paths of abstract chemical th Mr. Muir's scholarly like little work offers a decided treat, thou do not think he gives the alchemist all the credit that is due t mysterious but interesting individual. Lacking in method as w labours, and erroneous as were in many cases his conclusions, accumulated a vast fund of facts and disconnected items of inforr which the modern chemist has assimilated, and the far-off discov which has too often been forgotten. Mr. Muir says that "Al encouraged superficiality of observation and looseness of thinking though this is no doubt to a great extent true, yet it must not gotten that it was due rather to the deficient state of knowledge time than to deficient purpose on the part of the alchemist

atise invention and establish the correlation of facts was impossible absence of some of the master discoveries of later years, but with defects in their reasoning and the want of lucidity in the expres- their ideas we think the world owes a great debt of gratitude to hemists, not only for the manner in which they broke the ground ir successors, but also for the romance with which they invested esearches, and the consequent stimulus to the exercise of the ative faculties of mankind.

Laboratory Notes.

NALYTICAL, PHYSICAL, AND TECHNICAL.

ESTIMATION OF MAGNESIA IN CEMENTS.

want of an exact method of estimating magnesia in Portland is commented upon by A. Heiser, who advocates treatment ydrochloric acid. He objects to the fusion method with alkaline ates, on account of the solubility of the magnesium-ammonium iate, in the presence of potassium and sodium salts, pre- lly affecting the results. He is investigating the residue left by ent with hydrochloric acid.

THE ELECTRICAL PURIFICATION OF OILS.

is been observed by Levat that in water which contained a small y of fatty oil, when a current of electricity was passed through ne, the appearance and taste of sweet oil was much improved. ating oil containing 5% of free acid was by like treatment much ed, and the percentage of acidity materially reduced. The state- in support of the fact seem, however, so far rather meagre.

VOLUMETRIC ESTIMATION OF THE ALKALINE EARTHS.

nvenient and rapid means of estimating barium, strontium, and n salts soluble in water is as follows: — A nearly boiling is solution of the salt is titrated with potassium carbonate solution, Phenolphthalein as indicator. Naturally it is an essential con- that nothing else precipitated by an alkaline carbonate must be t. The results are said to be quite satisfactory, and the end of ction is readily discernible.

PREVENTING "BUMPING" IN BOILING LIQUIDS.

h trouble is often caused in the laboratory owing to the bumping ids which are being distilled or concentrated. In water analysis, ticular, with a bad sample, after the addition of the alkaline nganate, in accordance with Wanklyn's method, this phenomenon lly becomes unpleasantly violent. A most simple, but perfectly al way of overcoming this difficulty, is to introduce a few pieces llary tube, about one inch long, of which one end has been fused Ebullition then proceeds evenly and quietly. The advantage of ver the many other substances which have been suggested is nt, especially for organic work. Many perhaps may be up to inkle, but we feel sure there is a very large number of chemists re not. The results obtained in the Manchester Technical itory by the aid of this "wheeze" have been highly tory.

A NEW CARBON SULPHIDE.

essor Von Lengyel announces the isolation of a new sulphide on having the formula C_3S_4 The compound is a liquid of red and characteristic odour, affecting the lacrymal glands. It was ed by subjecting the vapour of carbon bisulphide dissociated by o the temperature of the electric arc. Strangely enough, it forms romine a pleasant-smelling compound.

ESTIMATION OF CHLORINE IN WATERS.

en standard silver nitrate solution is employed, with potas- hromate as an indicator, it is often very difficult to decide just the red colour begins to appear, even with the comparison dish er tinted with the chromate is at hand as an aid to the eye. One nt reason is that it is hard to compare a clear yellow liquid with rbid from precipitation of silver chloride.

nvenient way is to approximately determine the chlorine present, en to make a second determination using for comparison 100 cc. illed water to which has been added not only the chromate tor, but also an appropriate amount of standard sodium chloride n and an amount of silver nitrate solution just short of that ary to satisfy the chlorine present. Of course, if the chlorine ran h as to render concentration unnecessary, then 100 cc. of the water itself with the indicator and the partial dose of silver nitrate would be the proper contents for the comparison dish. By these means the eye is greatly aided in noting the slightest appearance of red tint, for in respect of turbidity both dishes are alike. The results are very satisfactory.

PREPARING PURE POTASSIUM IODIDE FOR TITRATIONS.

A convenient way of preparing this salt in a state of purity is described by Max Gröger as follows:—40 grams of pure $KMnO_4$ are dissolved in one litre of hot water, 20 grams of potassium iodide dissolved in a small quantity of water added, and the whole heated on the water bath for half-an-hour. Alcohol is then gently added until the red colour of the solution is destroyed, and filter. The precipitate on the filter is well washed, with hot water. The filtrate is then made distinctly acid with acetic acid, concentrated to a volume of about 50 cc., and allowed to cool. The mother liquor is finally poured off from the granular crystals of iodide of potash, which will have formed, the latter being thoroughly washed with pure alcohol and allowed to dry. The feature of the method is the acidification with acetic acid. Unless this is done, the crystals are much longer forming, and a yield of 40 to 50% only is obtained, whereas, by acidifying, the yield is 90 to 95%. Ordinarily, the removal of alkali by washing with alcohol is not successful, owing to the alkali formed in the re-action absorbing CO_2 from the air, and forming alkaline carbonates, which are insoluble in alcohol.

A NEW FILTER DISC.

A new porcelain disc for filtering under pressure is being introduced by Messrs. Max Kaehler and Martini, of Berlin. The idea emanates from Dr. O. N. Witt. Round the edge of the disc an india-rubber

ring is let in which projects slightly and fits snugly to the funnel, a central glass rod keeping the disc in a horizonal position by passing through it into the stem of the funnel. Filter cones on much the same principle are also prepared, as our illustration indicates.

A NEW MINERAL.

A new mineral copper chloride—has been found. It was discovered in the Broken Hill South Mine at the 300ft. level in the carbonate of lead stopes below the original water level. It was found in one boulder about 2ft. to 3ft. in diameter, the boulder chiefly consisting of carbonate of lead and oxide of copper, with films of oxy-chloride of copper. The crystals, on examination, were found to consist wholly of copper and chlorine, a quantitative analysis showing as follows:—Copper, 64·28 per cent.; chlorine, 35·92 per cent.

A SUBSTITUTE FOR MERCURY IN THERMOMETERS.

Toluol has been suggested as a filling for thermometers. It freezes at a lower temperature than mercury. Further, it is very cheap; and as it is much lighter than quicksilver, the tube of the thermometer can be made larger than is now usual, thus securing greater exactitude in the registrations. It is easily distinguishable in the glass tube; so that the readings of the thermometer can be quickly seen.

Legal Intelligence.

HIGH COURT OF JUSTICE.

CHANCERY DIVISION.

(Before Mr. Justice North.)

THE FARBENFABRIKEN VORM FRIEDR. BAYER AND COMPANY *v.* LAPORTA.

THIS was an action to restrain the infringement of a patent by the manufacturers of red dye. The defendant about three years ago submitted and undertook not to further infringe. A motion was now made to commit him to prison for breach of his undertaking. It was shown that he had sold eight tons of dye in breach of his undertaking.

Mr. Justice North said that if he were not to commit the defendant in this case he could not picture to himself a case in which he ought to make an order for committal. He made the order asked for.

DERBYSHIRE ASSIZES.

(Before Mr. Justice Hawkins).

EVANS *v.* J. KEMPSON AND CO.

This was an action brought by Mr. H. Evans, farmer, and his wife, Mrs. E. Evans, against Messrs. Kempson and Co., chemical manufacturers, of Pye Bridge, in regard to a nuisance which they alleged existed upon the premises of the latter, and in respect of which they claimed damages.—Mr. H. Y. Stanger and Mr. W. B. Hextall were for the plaintiffs, and Mr. Buszard, Q.C., and Mr. Toller for the defendants.—Mr. Hextall stated that the action was brought for damages done to plaintiffs' farm, land, and farm premises through the noxious gases and bad smells which emanated from the defendants' chemical works. The defendants denied the allegations.—Mr. H. Y. Stanger said the plaintiffs, Mr. and Mrs. Evans, were the owners of a small piece of property at Pye Bridge, consisting of a farmhouse, the ordinary outbuildings, some thirteen and a half acres of land, with an orchard and garden. The place was erected some 80 years ago, and the plaintiffs came into possession for life about 30 years ago. They now came to the court to complain of the nuisance caused by the chemical works which, he said, were erected about 17 years ago. The property was situated by the side of the Cromford canal, and there was a bend in the canal towards the north of the house, and just at that bend the chemical works of Messrs. Kempson were erected, the farmhouse being just across the canal at that point, and the fumes from the works had, so the plaintiffs alleged, caused a sensible diminution in the value of the property. Since the chemical works were first erected they had been greatly enlarged at various times. Amongst the operations which were carried on at these works was the distillation of tar, and in this and other operations most offensive gases were emitted, which comprised the nuisance complained of. As showing the diminution in value, he might state that a farmer named Bradshaw had the farm from 1875 to 1885, and paid a rent of £55, but that rent had to be reduced owing to the effects of the nuisance, and subsequent tenants had the farm in turn at reduced rents. Mr. Evans had complained to Mr. Kempson about the nuisance, but could obtain no redress, nor any abatement of the stenches, and hence the plaintiffs were compelled to come to court for their remedy.—Mr. H. Evans, one of the plaintiffs, said he lived at Green Hill-lane, about two miles from the works. He was the owner of the farm for a good many years before Mr. Kempson erected his works. The farm had always been let to a tenant. Before the defendants erected their works there was no nuisance. The works were separated from plaintiffs' farm only by the canal. In 1893 the rent paid by one tenant was only £30, the reduction having been made on account of the smells from the works.. Several years ago, when Bradshaw was the tenant, witness saw Mr. Kempson, and spoke about the nuisance. During the past few years he had inspected the farm, and had noted the difference in the trees, &c., which had greatly deteriorated The previous tenants had all complained. A tenant named Burt answered an advertisement which plaintiff inserted in the newspapers, and he paid £35 per year.—Cross-examined by Mr. Buszard, plaintiff said he expected to get the same rent for grass land now that he did 15 years ago.—Mr. Buszard asked if the value of property in the agricultural world had not deteriorated very much of late years, and witness replied that grass land had not, although arable land might have.—Mr. Buszard: Do you mean to swear that ?—Plaintiff: I do; it is the case at Pye Bridge.—His lordship: Pye Bridge must be a kind of fairyland. (Laughter.)—In further cross-examination plaintiff admitted that there were several collieries in the neighbourhood, and that the Riddings gasworks and Oakes's blast furnaces were only 400 yards away from his farm. There were five collieries in the d the nearest being half a mile away. Mr. Slack was one tenants of the farm, who left some years ago, but p did not propose to call him as a witness. Asked why, said it was because Slack was now no friend of his, and ha animosity against him. Slack had complained more of the cal works than of the high rent. Witness was not go call any of his late tenants.—By His Lordship: The tena named Bradshaw when witness first heard complaints as smells from the chemical works. That would be over ten ago. He meant seriously to say that the fumes from the ch works altered the colour of the paint on the farm building drab to slate.—His Lordship: What are you now by o tion ?—Witness: I am a fruit preserver.—His Lordship: why don't you get up a manufactory on your own land here ? could get the products dyed on the spot without the use chemicals. (Laughter).

Mr. Abraham Taylor, farmer, living at Riddings, about from the plaintiffs' farm, said he formerly resided in pla farmhouse, long before the chemical works were started. H known the place ever since, and at the present time he pass it two or three times each week. When he had the he used it as a dairy farm. Within the last seven or eight he had noticed that the foliage on the farm at the cana appeared to be blighted.—Cross-examined by Mr. Buszard land would be very valuable but for the chemical works would not say that the land was worthless.—By His Lord He should think the land was worth £1 per acre less b of the chemical works being there. He had no interest farm, but his wife was sister to Mrs. Evans.

Several other witnesses, including Major Salmond, were and testified to the smells which emanated from the works

Dr. Barwise, Medical Officer of Health for the Cou Derby, deposed that he had inspected the works of the defen which were used for the distillation of tar and the manuf of sulphate of ammonia. He considered that with the produced from the manufactory it would be impossible to ca dairy farming in the immediate vicinity. Crude gas ta brought in barges, and an offensive smell was caused when were unloaded. Gas tar contained, amongst other things phide of ammonia, and personally he should describe the sm unpleasant. Amongst other smells given off from the works be the vapour of naphthaline. Sulphuretted hydrogen wa likely to escape, unless great precautions were taken. W had examined the trees in the neighbourhood, and judging their condition they had suffered because of the presen sulphurous and sulphuric acid.—In cross-examination said the works could not be carried on without detrimentally ing dairy farming in the neighbourhood . He was not awa for 18 years dairy farming had been carried on successfully place until Michaelmas.—Mr. Buszard: You have made a ment, but is not practice better than theory ?—His Lord Not in the case of eating that butter ? (Laughter.)—In cross-examination, witness said that for all he knew, the pro of the Act of Parliament were carried out in the most manner at the works.—His Lordship asked counsel if the Ac a defence.—Mr. Stanger said he thought not.—His Lordshi he had not seen that any statutory defence was set up.—Mr zard asked the witness if he had to understand that the in could not be carried on at all.—Witness replied that it coul it should be in a suitable place, and not close to a dairy —Mr. Buszard: What more suitable place than this open -Witness: The works would interfere with an adjacent farm. The chimney, I think, is not so high as it should b reply to a further question, witness said if the chimneys locality smoked it was illegal. Some of the collieries ne place consumed their own smoke.—Dr. H. L. Jones, resid Alfreton, said he had seen the plaintiff's premises, and th and foliage showed that there was damage where they exposed to the fumes from the works. He agreed generall what had been said by Dr. Barwise.

Mr. Buszard, in opening the case for the defendants, sa whole question was whether there was any material dam the plaintiffs' farm. People who had lived there would be and he should also call the Government Inspector, of ten or years ago, but who had inspected the works only the othe Experienced valuers would also be called, and they would sa in their opinion, there was not the smallest damage caused works. He would also show that damage could not be cau the land, either as a dairy farm or otherwise. In spite evidence of experts, dairy farming had been successfully carr upon land which was separated from plaintiffs' farm only fence. Witnesses would tell the Court that the fruit trees and vegetation had not been at all injured by the works, a should contend that after the lapse of some seventeen yea

was really brought to compensate Mr. Evans because diminished value of his land.—Mr. Jas. Diamond, in reply Toller, deposed that he was manager of the defendants' and resided on the premises. The alleged noxious fumes ls had not affected either himself or his family. A garden tached to his house, but neither fruit nor vegetables had t all injured. Products were manufactured from gas tar moniacal liquor, and the works were carried on under the sion of the Government Inspector.—In cross-examination Stanger, witness said nothing which emanated from the was injurious, and neither sulphurous acid, sulphuric acid, phuretted hydrogen escaped from the works. He did not ith the evidence of Dr. Barwise and Dr. Jones, nor did he hat disagreeable smells were frequently emitted from the Three men were killed at the works last year by the in- of a combination of poisonous gases, which were necessarily d in the course of manufacture.—Further examined by Mr. , witness said the men who were killed were in a still ned space).—Mr. Edward Jackson, Government Inspector outh Midland District, under the Alkali Acts, deposed that , since 1884, inspected the works of defendants, and he d in detail the nature of the business carried on there. mes produced in 1884 in the course of manufacture were into the chimney, and thus escaped. The arrangements orks were not so perfect then as now; as he found, on more isits, that a new apparatus had been erected, and various ments had been made. In all respects the requirements Act of Parliament had been complied with.—By Mr. Stan- the tar were received by barge, there would be a smell as not agreeable, but it would be only like the smell from gasworks.

George Edward Davis, chemical and consulting engineer, ster, and predecessor of the previous witness as Govern- spector, said he had made an examination of the system now at the defendants' manufactory, and he was in accordance e views of Mr. Jackson on the subject. He had recently laintiffs' land poor and damp, but in his opinion bad culti- was the cause. There was no indication of the grass ffected by the fumes from the works of defendants, nor did ice any signs of the hedges being injured. He had d the paint on the window sashes of plaintiffs' farmhouse, re was no sign that sulphuretted hydrogen had affected the In cross-examination witness said that sulphurous acid en off from the burning of coal, and that would ordinarily By Mr. Buszard: Sulphurous acid was given off from coal at the pits, and it was injurious to vegetation all round. ohn Fowler Kempson said he was sole proprietor of the . He had introduced, from time to time, all the improve- uggested by science, but the capacity of the works had not aterially increased in consequence.—In cross-examination said if any serious complaint had been made to him by ns ten years ago he should be able to remember it now. as a question raised as to the renewal of the lease of the by witness's landlord, Mr. Oakes, a complaint having ceived from Major Salmond.

Thompson, residing at the Crimea Farm, said amongst nd he rented some near the defendants' works. He had the land about nine years, and had never experienced age to crops or cattle from defendants' works. He had ex- d a smell sometimes, but he did not object to it. He knew smells were there when he took the land near the works. ere several kinds of smells; he neither liked them nor them; he took no notice of them.—Mr. Stanger: Which icest?—Witness: I can't say. (Laughter.)—Later on in His Lordship urged counsel to get on with the evidence. been told that this case would not last long, and he ected to finish it by five o'clock.

Charles Richard Chamberlain was then called, and said the farm agent for Messrs. Richard Oakes and Co., and 30 years managed about 800 cares of land for that firm. the land which belonged to Messrs. Oakes was adjacnt to ndants' works, and to his knowledge no damage had ne to it because of the fumes from the works. He had d the plaintiffs' land on the 24th of February, and he ay that 50s. per acre, including the house, would be a e.—Mr. Murray, agent to the Earl of Harrington, gave , in corroboration of that given by Mr. Chamberlain.— on both sides then addressed the jury.

ordship summed up, and the jury retired to consider their They found for the plaintiff, and assessed the damages —Mr. Stanger applied for an injunction.—His Lordship he would not grant an injunction that day, as he thought ement might be arrived at regarding the matter.—Mr. And if an agreement is not come to we can renew the on for an injunction?—His Lordship: Precisely.

THIOFORM.

THIS new product, which is intended to act as an odourless substitute for iodoform, is a basic bismuth salt of dithio-salicylic acid. Its value as a substitute for iodoform, as a non-poisonous desiccative antiseptic for the treatment of wounds, has been confirmed by the experience of a number of physicians and veterinary surgeons. Indeed, not only has it answered in every detail to the favourable opinion expressed in regard to it, but its extended use has revealed a number of excellent qualities overlooked before, which makes thioform appear destined to very largely do away with iodoform. As compared with iodoform the most striking characteristics are:—Its freedom from odour; its freedom from toxic properties; its greater antiseptic strength; its desiccative action.

In various veterinary schools in which it has been employed, thioform has completely supplanted iodoform, and is used exclusively in all cases in preference to the latter.

It has not only the advantage of inodorousness, but is also a mild vulnerary, causing little irritation, and dries the wounded or ulcerous surfaces much more quickly than iodoform or dermatol. Unlike many remedies recommended for the antiseptic dusting of wounds, thioform does not form a hard solid cake, which covers the wound, and beneath which the secretions collect in larger or smaller quantities.

Gallanol, and gallobromol, are two other preparations which, chemically speaking, are respectively pure anilide of gallic acid and dibromo gallic acid, and which are being introduced along with thioform by Messrs. R W. Greef and Co, of 29, Mincing Lane, E C. Both compounds are antiseptics and germicides. Gallanol is chiefly useful for the treatment of eczema and affections of hirsute skin of the face and neck, its action being quicker than that of alkalies.

The Ship Canal & Chemical Trade.

TRAFFIC IN CHEMICALS AND DYESTUFFS.

THIS week has seen the arrival at Salford Docks of two vessels carrying cargoes of logwood, namely, the two barques *Westfold* and *Quelle*, from Jamaica and Montego Bay respectively. Cargoes of oil, dyewoods, and resin are also in transit. Among the departures the barque *Argo*, which has been lying at the Trafford Wharf, has gone to Runcorn, where she will take in a cargo of salt.

PAPER MAKERS AND THE CANAL.

Messrs. Henderson, Craig, and Company, Limited, the well-known sulphite pulp importers, who received a large cargo of wood pulp per s.s. *Neva* last January, have through their Manchester agent, Mr. A. C. de Boinville, chartered the s.s. *Minerva*, a vessel of goodly proportions, which has left Gothenburg for the Ship Canal with a full cargo of sulphite pulp. This vessel will in all probability be followed by others, and there is every chance of this branch of the paper-makers' trade developing considerably and becoming an important feature in the business at the Manchester and Salford docks.

THE GAS SUPPLY OF LONDON.

THE quality of the gas supplied to the City of London for the week ending March 3rd, 1894, was good. According to the report of Mr. W. J. Dibdin, chemist and superintendent gas examiner to the London County Council, the tests made at the various testing stations showed no deficiencies in illuminating power. The following figures have been prepared from the report, and show the average composition of the gas calculated on the mean test:—

Company.	No. of districts tested.	Illuminating power (in stand. sperm candles). Mean average.	Sulphur. Grains in 100 cb. ft. Mean average.	Ammonia. Grains in 100 cb. ft. Mean average.	Sulphuretted hydrogen.
Gas Light and Coke Co.	13	16·34	11·86	0·25	Nil.
South Metropolitan Gas Co.	6	16·50	11·95	0·31	Nil.
Commercial Gas Co. .	2	16·50	8·50	0·30	Nil.

The standard gas supplied by these companies should have an illuminating power of 16 sperm candles, and contain not more than 22 grains of sulphur and 4 grains of ammonia per 100 cb. ft. of gas on an average of three days withs a pressure of one inch between sunset and midnight, and six-tenths of an inch between midnight and sunset.

Correspondence.

ANSWERS TO CORRESPONDENTS.

F. T.—Thanks for communication

R. W. G —We are always glad to receive such information.

S. H. S. (Pa)—We are sorry to hear the cause, and trust you will let us have particulars later.

E W.—The extension will be duly made.

Manure.—Yes, it is out; we shall come to its turn very shortly now, all being well.

Impetus.—(1). You are hardly explicit enough. There is a separate formula for each coudition. Your remarks lead to the inference that you thought differently (2). Yes. two, a light and heavy. You want the former naturally.

J. L. (Bradford).—Many thanks for enclosure.

A REVIEW OF THE SALT TRADE.

IN giving a few particulars about the salt trade in various countries, the *Northwich Guardian*, speaking of the past month, says the prospects at the commencement seemed good, but vessels fixed to load did not complete their loading in the month; and the coasting trade, owing to the very stormy weather, was nearly paralysed. The prospects for March, however, seem very good, especially for the East Indies.

The shipments of white salt in February, during the last ten years, have been :—

In 1885.....	55,105 tons	In 1890.....	63,916 tons
1886.....	55,912 ,,	1891.....	38,574 ,,
1887.....	55,088 ,,	1892.....	32,382 ,,
1888.....	65,886 ,,	1893.....	35,825 ,,
1889.....	40,905 ,,	1894	28,818 ,,

The average for the ten years is 47,241 tons; for the first five years, 54,759 tons; for the last five years, 39,903 tons.

The shipments to the United States have again been very small, and until something is definitely settled respecting the tariff bill now before the Senate, there will be no increase in shipments. We are able to give the statistics of the American salt industry for 1893, at a much earlier period than we can obtain the English, thanks to the enterprise of the *Engineering and Mining Journal*, which annually collects and publishes returns of the "Mineral Industry of the States." According to these returns, the production of salt in the United States for the year 1893 was as follows, in barrels of 280lbs :—

	1892.	1893.
New York	4,400,000	4,413,181
Ohio, West Virginia and Pennsylvania	738,000	925,320
Michigan	3,812,054	3,483,301
Illinois	60,000	70,000
Louisiana	192,850	172,500
Texas	120,000	144,435
Kansas	1,232,850	1,607,000
Utah	900,000	196,900
Nevada	20,000	10,000
California	235,000	312,850
Other States	75,000	100,000
	11,785,754	11,435,487

As the barrels are eight to the English ton or seven to the American, we find the production in English tons to have been 1,429,436 tons in 1893, as against 1,473,219 tons in 1892, or a decrease of 43,783 tons. The great decrease has been in Utah, where the salt was used in connection with mills and reduction works. In Michigan also there has been a considerable decrease. The shipments to British North America —never large at this season—have been fairly satisfactory, though very little salt has gone by sailing vessels.

The West Indies, Central and South America have taken but little salt.

Africa keeps fairly well up to the average.

The East Indies have again been disappointing. Several vessels had not quite completed their loading or the month would have been equal to February, 1893. The price of salt is well maintained in Calcutta, and stocks are still low. The prospects for March are satisfactory.

The shipments to Australia have been satisfactory.

Germany has taken rather more than usual, but still the quantity is very small. The exports of German salt for 1892-1893 were 192,000 tons, as against 253,000 in 1891-1892. British India took 52,000 tons less in 1893 than in 1892.

Nothing has gone to the Baltic or the North of Europe, and Belgium has taken but little either of white or rock salt.

The coastwise exports have been very small indeed, owing to the stormy weather, and but for the shipments by steamers in the last few days of the month scarcely any salt would have been sent fro Upper Mersey.

Vessels leaving Manchester by the Ship Canal now find it conve to take in Salt at the Runcorn lay-bye or Saltport, and doubtless trade will increase.

SALT SHIPPED DURING FEBRUARY, 1894.

WHITE SALT.

Destination.	From Liverpool.	From Runcorn.	From Weston Point.	To
	Tons.	Tons.	Tons.	To
United States (North)	2,728	—	—	2
,, ,, (South)	865	—	—	
British North America	1,192	—	—	1
West Indies & Central America...	491	107	—	
South America	540	—	—	
Africa	3,453	—	—	3
East Indies	13,521	—	—	13
Australia, New Zealand, &c.	2,481	—	—	2
Germany	213	—	—	
Russia	—	—	—	
Denmark and Iceland	—	—	—	
Norway and Sweden	—	—	—	
Belgium	167	—	—	
Holland	—	—	—	
France and South of Europe	1	54	—	
England	5	211	550	
Ireland	19	365	—	
Scotland	—	—	1,855	1
Totals	25,676	737	2,405	28

ROCK SALT.

United States (North)	50	—	—	
,, ,, (South)	—	—	—	
British North America	—	—	—	
West Indies & Central America...	2	—	—	
South America	—	—	—	
Africa	20	—	—	
East Indies	—	—	—	
Australia, New Zealand, &c.	610	—	—	
Germany	—	—	—	
Russia	—	—	—	
Denmark and Iceland	—	955	—	
Norway and Sweden	—	—	—	
Belgium	603	250	—	
Holland	447	—	—	
France and South of Europe	—	32	—	
England	—	180	—	
Ireland	—	261	—	
Scotland	—	—	247	
Totals	1,732	1,678	247	3
Grand totals, white and rock	27,408	2,415	2,652	32
Corresponding month of 1893	30,451	4,432	4,906	38
Increase	—	—	—	
Decrease	3,043	2,017	2,254	7

The Discovery of Petroleum in Somerset.—The discove crude petroleum on the Ashwick Estate, Somerset, promises to be little importance. Professor Redwood, the petroleum expert, an Topley, the Government geologist, have presented their report o subject. They state as the result of their investigation that suf oil does exist in the locality to warrant any expenditure that m necessary for boring. They are also of opinion that the detonati a few charges of a high explosive in the well might have the eff liberating deposits of the oil in the contiguous rock and caus further considerable flow into the well. This recommendation acted upon on Saturday last at Ashwick Court with satisfactory resul ounce and a half dynamite cartridge being used. The water ca thickly coated with oil. Professor Redwood and Mr. Topley st their report that the specimens of the oil obtained from the w Ashwick were transparent, of straw colour, exhibited practical fluorescence, and had an odour resembling that of refined rather than oil. It had a specific gravity of ·816 at 60° Fah. and a flashing of 175° Fah. by the closed test.

Reports of Companies.

PRICE'S PATENT CANDLE COMPANY, LIMITED.

THE directors in their report state that the diminution in the incomes of many classes of the community which has, from a variety of well-known causes, recently taken place, prejudicially affected the demand for the manufactures of the company, whilst one of those causes—the coal strike—enhanced the cost of production in 1893 by more than £2,000. But in addition to and far beyond the loss which the company in common with manufacturers of other articles sustained from the causes referred to, candlemakers in the United Kingdom have suffered from the fierceness of the competition resulting from the disruption, referred to in last year's report, of the amicable working agreements which had for a considerable time previously subsisted between the principal producers of paraffin in America and Scotland, and between them and a large majority of the candle-makers in the United Kingdom, and leading, in a struggle for existence, to the adoption of prices leaving but little margin for profit upon those classes of candles of which the sale is largest. Under these circumstances, the directors consider it highly satisfactory that the profit of 1893 is virtually the same as that of 1892. The profit of 1893 amounted to £64,860., to which has to be added £7,825. carried forward from the previous year, making together £72,685. Deducting the dividend paid in September last—£18,750.—and writing off the usual £12,500. for depreciation of fixed properties, and adding, as the directors recommend £5,000. to the reserve fund commenced last year, together £36,250., there will remain an available balance of £36,435. Out of that last-mentioned sum the directors recommend the payment, on the 17th inst., of a dividend of 15s. per share, making, with the 10s. per share paid in September last, a dividend of £1 5s. for 1893, and leaving £8,310. to be carried forward.

THE BRITON FERRY CHEMICAL AND MANURE COMPANY, LIMITED.

In their report the directors state that the success attending the operations of the past year has been obtained in exceptionally adverse circumstances. The tin-plate trade has not only been unfavourably affected by the bad condition of trade generally, but especially so by the utter disorganisation in the United States. The present make of tin plates in South Wales is estimated to be less than half the producing capacity of the existing works, and the price of acid has accordingly been considerably depressed. Fortunately, the good quality of this company's make of acid has caused it to grow in favour with the buyers, and a good share of orders at the best ruling prices has been obtained. Further economies have been effected in the process of manufacture. Only a portion of the plant has been kept employed, but the operations have been carried on with a fairly steady regularity, except during the occurrence of the coal strike, which caused for a time a stoppage of the works. A very moderate revival in general trade, or the hoped for reduction in the American duties on tin plates, would greatly enlarge the volume of this company's business, with a more than proportionate increase to its profits. The plant has been kept in excellent repair, and several improvements effected. Larger quantities of acid can be immediately produced when the improved demand shall arise. It will be observed that a further sum of £1,300. has been paid off the debenture debt, reducing it from the original amount of £10,000. to £7,500. The net profit obtained during the past year has been £7,671., and, with the balance of profit from the previous year of £1,052., amounts to £8,723. From this, £137. has been paid in income tax, £1,000. has been transferred to chambers and columns renewal account (making that account £11,000), £1,562. was paid on August 2, in an interim dividend of 1s. per share, and a like sum of £1,562 credited to the Cape Copper Company. A balance of £4,460. remains undivided. The directors recommend that out of this a dividend of 1s. per share be declared, payable on March 16th next. This dividend will absorb £1,562. Further particulars in this connection were given in this *Journal* last week.

THE UNITED ALKALI COMPANY, LIMITED.

The balance-sheet and profit and loss account on the working of this company during the 12 months ended on the 31st December last show a net profit of £375,414. 6s. 1d , which the directors propose shall be apportioned as follows :—Interim dividend on preference shares at 7s. per share for six months to 30th June, 1893, paid 30th August, 1893, £96,204. 0s. 5d.; dividend at 7s. per share for six months to 31st December, 1893, payable 19th March, 1894, £95,998. 1s 3d.; interim dividend on ordinary shares at 6s per share for six months to 30th June, 1893, paid 30th August, 1893, £84,450. 16s.; dividend at 4s. per share for six months to 31st December, 1893, payable 19th March, 1894 (making a total distribution for the year of 5 per cent.), £56,180. 0s. 2d. A sum of £42,581. will be carried to reserve.

THE SHARON CHEMICAL CO., LIMITED.

The third ordinary meeting of this company was held at Derby on Tuesday last, Mr. F. J. R. Carulla presiding.

The Chairman said the shareholders would see that the results of the year's working had been fairly satisfactory. He hardly liked to refer to the great "coal strike," as the subject had been worn nearly threadbare at similar meetings. Nevertheless, they could not get over the fact that the period during which it lasted was included in that over which the accounts extended, and also that it did not help to improve them. One good thing, however, the strike certainly did, namely, to make the directors give every attention to the question of fuel economy, so that in the end, as it frequently occurs, the difficulty might turn out to have been a blessing in disguise. He hoped they might next year by this means be able to take another step forward and improve on the dividend of 6¼ per cent. they now propose to declare for last year.

On the proposition of Dr. Laurie, which was duly seconded, the meeting approved the report and accounts and final dividend of 1¼ per cent. on the called up ordinary capital of the company, to be paid on March 31st inst. was declared, making with the interim dividends already paid 6¼ per cent. for the year 1893. Dr. Laurie thought the result eminently satisfactory, and that it reflected credit on the management, in view of the depressed condition of trade in the country. It was clear that with any improvement in this direction they might reasonably look forward to a still further increase in the dividend.

MESSRS. BROOKE, SIMPSON, AND SPILLER, LTD.

EXTENSION OF DIRECTORATE.

An extraordinary general meeting of this company was held recently at Winchester House, Old Broad-street, Lieutenant Colonel Arthur Brooke presiding.

The Chairman moved: "That the resolution reducing the number of directors to seven, passed at the annual ordinary general meeting of the Company on the 9th day of March, 1893 (*C.T.J.*, 353, p. 127), be, and the same is hereby, rescinded, and that the number of directors be, and the same is hereby, increased from seven to eight."

Mr. Spiller seconded the motion, which was carried unanimously.

The Chairman then moved: "That Mr. Walter Eldridge Johnson be, and he is hereby, elected a director of the Company."

Mr. Friswell seconded the motion, which was also carried unanimously.

SOCIETY OF CHEMICAL INDUSTRY.

LIVERPOOL SECTION.

THE usual monthly meeting of this section was held last week at University College, the chair being occupied by Mr. E. Carey. A paper was read by Mr. F. H. Tate, on "Methods for the rectification of vitriol." After a historical review of the methods employed for the purpose, Mr. Tate considered in detail the various forms of apparatus in use, and their relative cost and advantages. Rectification from platinum stills and from gold-plated platinum stills was first discussed, the greater durability of the latter being pointed out. The lecturer then described the continuous processes of distillation in use, employing glass, porcelain, iron, or enamelled iron vessels, and concluded with an account of the Kessler furnace system of concentration. A discussion followed the reading of the paper, in which Messrs. M. L. Davies, A. E. Fletcher, R. Forbes Carpenter, Nicholson, and E. K. Muspratt took part, and to which Mr. Tate replied.

On the motion of the chairman, a hearty vote of thanks was accorded to Mr. Tate for his interesting paper.

Subsequently the Secretary communicated a paper by Mr. Max Muspratt, on the "Quantitative Estimation of Cadmium." The work which had been carried out in the Zurich Polytechnic School consisted of a comparison of the most important methods employed for the estimation of the metal, and pointed out the great accuracy of the electrolytic methods of determination as compared with the older oxide method, the sources of error in the latter being fully dealt with.

Mr. Carey proposed, and Professor Campbell Brown seconded, a vote of thanks to Mr. Muspratt for his paper, expressing the hope that it would be the first of a long series of contributions to the Society.

Dr. G. Schack-Sommer communicated the results of his sugar-beetroot growing experiments during 1893 in England, Scotland, and Ireland, which clearly corroborated those obtained in previous years, proving that the cultivation of beet was attended with quite as successful results here as on the Continent. This subject was also referred to quite recently in these columns to the same effect.

Trade Notes.

Storing Sulphurous Acid.—A patented vessel for holding anhydrous liquefied sulphurous acid is made of tin plate, sheet copper, or brass (solder-jointed), of sufficient strength to withstand the pressure, such vessels being unacted upon by the anhydrous liquid. The vessel is fitted with a special charging and emptying device.

Ultramarine.—A patented process of converting green ultramarine into the blue variety proposes to effect this conversion by heating green ultramarine under pressure with a saturated solution of sulphur in sodium sulphide. The same end may be attained by first mixing the green ultramarine with sulphur, and then digesting in a solution of sulphide of sodium.

Personal.—We learn that the newly-instituted courses of Practical and Industrial Chemistry at the Brooklyn Polytechnic, N.Y., have, under the direction of Dr. P. T. Austen, who has had considerable experience as a professor and chemical engineer, aroused a good deal of interest in the district, and promise to be a distinct success. They have our good wishes.

Preserving Cocoanut Oil.—The difficulty of keeping cocoanut oil, when cold-drawn by hydraulic pressure, has apparently been solved in Jamaica. There the ripe cocoanuts are kept with the outer husk on in a hot, dark room until the kernel is found to rattle. The nuts are then cut by a circular saw, when the kernel drops out. The oil prepared from these kernels, though kept in an uncorked bottle, was found to be perfectly sweet after the lapse of fifteen months.

Benzine Motors.—The efforts of the Deutz, Cannstatt, and other German works in the direction of the manufacture of benzine motors have been so successful that the "Verein Maschinenbau Anstalt" has had to ask the German Government to introduce an important reduction of the duties on light petroleum and benzine. This has been granted, and it is expected will put the benzine motors on equally advantageous terms with gas motors, while the former will be available for use in many places where gas is not to be procured.

Oil Fuel for Steamships.—The British tank steamer Baku Standard, which has arrived at Philadelphia, was propelled all the way across the Atlantic by steam generated by the use of oil. The experiment was a distinct success. The whole voyage was a succession of hurricanes, and heavy seas were experienced throughout. So bad was the weather that the Baku Standard had to be hove to for four days. The vessel also got caught in an ice floe, and was held fast for fourteen hours.

Preparation of Sewage Precipitant.—The following process for the preparation of a sewage precipitant forms the subject of a patent. The gases given off by heating iron pyrites in air and steam are passed over heated ferric hydrate, alumina, or bauxite. The residue consists of a mixture of porous iron oxide and sulphate, while the hydrates are principally changed into sulphates. If the amount of sulphate is small, it is lixiviated out and the solution evaporated. The residue from the burnt pyrites, after lixiviation, may be employed as filtering material for sewage.

Amalgamation of the Government Laboratories. — The Government have decided to amalgamate the laboratories at Somerset House and Custom House, and have chosen, as was stated last week, Professor Thorpe to be the head of the joint laboratories. It is doubtful whether there will be any present saving, owing to the "vested interests," as well as to the high salary to be paid to the new principal. In addition to their salaries, the under chemists are to receive sums varying from £50 to £150 for loss of prospects; the last-named amount is to be given to Mr. Bannister, the deputy principal at Somerset House, who has been in the service for 37 years, and who had every reason to expect that he would succeed Dr. Bell. Dr. Bell was one of the favoured individuals exempted a couple of years ago from the action of the order in council, governing retirement at the age of 65. He has spent 48 years in the department, and retires on a pension of just under £700.

The Assessment of Ironworks and Factories.—The revision of the assessments of ironworks, factories, &c., at Wolverhampton by the overseers of the poor has led to greatly increased valuations. The basis of assessment had not been altered for 25 years, and many of the valuations have now been doubled and trebled, and in some cases even quadrupled. The ironworks of Messrs. John Lysaght Limited has been increased from £2,030 to £4,000; Sir A. Hickman's ironworks from £560 to £2,170; the gasworks from £7,300 to £13,940; the works of Messrs. Bayliss, Jones, and Bayliss from £1,110 to £2,760; the Staffordshire Steel Co. Limited from £560 to £1,800. The assessments of the canal companies are unaltered, and reductions are granted on the tithes. The principal firms have held a meeting with the view to arranging for appeals to a legal tribunal in the event of concessions not being made. The enhanced valuations will have the effect of yielding a larger revenue and reducing the rates, which are among the highest in the kingdom.

Messrs. Goldschmidt, Hahlo, and Company. — informed that this firm has taken into partnership Mr. J Bardsley, who for many years has participated in the manage the business, and Mr. Sydney G. Goldschmidt, son of the la partner.

Purifying Beetroot Juice.—A recent German pa accomplishing this end is based upon the fact that oxychloride precipitates soluble albumen and the resulting precipitate, acc the inventors, is not dissolved by caustic lime. The juice is with milk of lime, and to every 60 litres there is added 0·5 p oxychloride of iron (the composition of which is about $Fe_2Cl_6(OH)_6$), and then more milk of lime according to the quantity The whole is next saturated at 80°C. with carbonic acid, bo filtered, and while undergoing the second saturation proce treated with oxychloride of iron and lime, but in smaller quant

A Safety Paraffin Lamp.—A method of rendering paraff spirit lamps safe against accidental explosion or fire through bei turned has been devised by Mr. J. R. Howarth, of Pentonvil London. It is based on the principle of absorption, and co partially filling the oil chamber of the lamp with small piec chemically prepared vegetable substance of a fine porous nature forms a soft spongy core. The remaining space in the cha occupied by a preparation of asbestos. The wick of the embedded in the absorbent materials, which retain the oil wh poured into the chamber. The oil is conducted to the point the flame is produced through the wick by capillary attractio usual way. There is thus no oil in the lamp in the form of a fre and should the lamp fall and break the oil will only be scattere fi the pieces of the core containing it. In the event of any pieces becoming ignited there would only be a few isolated ire, instead of a sheet of spreading flame as in the case of free o

NOTICES.

LONDON AGENTS

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Market Reports.

MISCELLANEOUS CHEMICAL MARKE

A considerable reduction in price has been made during week in ammonia alkali 58%, spot value being £3. 2s. 6d. bags, makers' works, and £3. 10s. per ton f.o.b., in casks. I other products of the alkali trade there are no quotable chan the demand continues fairly active for bleaching powder at £7. ton, softwoods, f.o.r. makers' works, and £8., hardwoods Caustic soda is unchanged, and current prices, subject to according to market, are as follows, viz. :– f.o.b. Tyne, 77%, £ f.o.b. Liverpool, 74%, £10. 5s.; 70%, £9. 5s.; 60%, £8. 5s.; 60%, £8. per ton, 10-ton lots and upwards. Soda crystals rath at £2. 10s. and £2. 15s., rails. Saltcake still depressed, and s sign of improvement. Chlorate of potash and soda steady, p without change. Sulphur, quiet: lump £4., roll £6., flowers Nitrate of soda 9s. 4½d. per cwt. Sulphate of copper is demand, and prices are firmer: £15. 15s., f.o.b., is the genera tion to-day. Litharge continues dull, and prices are in buyers' Acetates of lead are difficult to move: foreign white is still nc £26., English £27., grey £20. Nitrate £18. 10s. per ton.

a weak at £16., c.i.f. White powdered arsenic strong, and in request at £14., nett Garston. Oxalic acid is well maintained in and 3½d. per lb. is readily obtainable. Sulphocyanides move —prices are: ammonium 7¼d. per lb., barium 5¼d. per lb.

TAR AND AMMONIA PRODUCTS.

zol has been difficult to sell, even at such low prices, and 90's are ged in price, but 50/90's are rather dearer at 1s. 4½d. cene is moving better, buyers seemingly having come to the sion that prices would not shrink further. Solvent naphtha is e same as to position and price Carbolic acid is scarcely so nd crude, 60%, is quoted a ½d. lower. Pitch is reported ., but it is doubtful whether the rise will be maintained. hate of ammonia is firm, and the market strong. Prices have ed all round. The agent of the Gas Light and Coke Company £14. 1s. 3d., and outside London makes are likewise offering at s. 3d. Liverpool value is £14., the same figure applying to Leith is quoted £14. to £14. 2s. 6d. Consumers, apparently, ying but little just now, and the demand is consequently e.

REPORT ON MANURE MATERIAL.

re has been more activity in the market during the week, but seem to stand in the way of very large business. The quotation /80% Florida phosphate rock, 1894 shipment, remains 8½d. good United Kingdom ports, 8¾d. to Continent, and 9d. to but these prices are perhaps a shade above what buyers will Peace River and South Carolina River rocks are still quoted per unit, but this price is relatively high, and affords no induce- extensive buying. There are inquiries for cargoes of River Bones, Summer-Autumn shipment, but in the meantime shippers seem disposed to commit themselves to sales so far ahead. The n that position is about £4. 15s. to coast for orders. On spot y bone meal has been selling at £5. 3s. 9d. per ton, and this ould be taken for parcels to arrive. For March steamer ship- £4. 17s. 6d. has been accepted. Mediterranean bones continue e forward, and the value cannot be quoted over £4. 10s per ton, dry, merchantable quality, ex quay Liverpool. There has been deal of excitement in the market for nitrate of soda during the he heavy deliveries from Continental ports having run stocks low, and November cargoes making unusually long passages. 9s. 7½d. has been paid for a cargoe at port of call for the ent, and this is about the closing value for anything of good test handy size, though less would be taken for ordinary quality, ize, not yet arrived. On spot there is nothing to be had at 9s. 9d. per cwt., but for cargoes about due 9s. 7½d. would be d. There is nothing to report in other material.

TYNE CHEMICAL REPORT.

TUESDAY.

nicals are quiet, and prices vary much according to destination. ystals are quoted locally at £2. 5s. per ton. Bleach £7. 10s. . Caustic 76/77%, £10. 15s. per ton, Sulphur £4. 2s. 6d.

ching Powder, softs, £7. 10s. per ton, nett; hards, £7. 15s. per ton, austic soda, 76/77%, £10. 15s. per ton, nett; do., 70%, £9. , nett; recovered sulphur, 2 cwt. bags, £4. 2s. 6d. per ton, nett; sh, 48%, £3. 12s. 6d. per ton, nett; do., 52%, £3. 16s. 3d. , nett; do., 56%, £4. per ton, nett; alkali, 36%, £2. 15s. , nett; white alkali, 48%, £4. 10s. per ton, nett; do., 50%, £4. ton, nett; do., 52%, £5. 5s. per ton, nett; hyposulphite of 5-7 cwt. casks, £5. per ton; do., 1 cwt. kegs, £5. 10s. , nett; silicate of soda, 75° Tw., £2. 17s. 6d. per ton, nett; 0° Tw., £3. 12s. 6d per ton, nett; do., 140° Tw., £4. , nett; soda crystals, casks, £2. 5s. per ton gross weight; cwt. bags, £2. 5s. od. per ton, nett; chlorate of potash, r lb., less 6%; pearl hardening, £3. per ton, nett; pure sulphate of alumina, £4. 2s. 6d. per ton, nett; blanc fixe, s. per ton, nett; chloride of barium, £7. 10s. per ton, nett; te of alumina, £28. 15s. per ton, nett; aluminate of soda, 5s. per ton, nett; in 5 ton lots, £28. 10s. per ton, nett.

Durham Salt is still quoted at 9s. 6d. per ton, f.o.b. Tees.

.—Trade is very dull, and many of the pits are working short Best Northumbrian steam, 10s. to 10s. 3d. per ton, nett; quality ditto, 9s. to 9s. 6d. per ton nett; small steam rather 4s. 3d. to 4s. 6d. per ton, nett; bunker coal plentiful, 7s. to per ton, nett; gas coals, demand falling off, 7s to 7s. 6d. per t; coke quiet, 14s. to 14s. 6d. per ton nett.

THE METAL MARKET.

LONDON, WEDNESDAY.—Pig iron dull: Scotch warrants closed at 43s. 2d., Middlesbrough 36s. 2½d cash, and hematite 45s. 2d. Copper, firmer: Chili bars, G.O.B.'s and G.M.B.'s, closed at £41. 2s. 6d. to £41. 7s. 6d. cash, and £41. 13s. 9d to £41. 18s. 9d. three months. Tin, quiet: Straits closed at £68. 7s. 6d. to £68. 17s. 6d. cash, and £69. 5s. to £69. 15s. three months; Australian, £69. English ingots, £73. Lead, quiet: Spanish, £9. 5s.; English, £9. 7s. 6d. to £9. 6s. 3d. Silesian spelter, ordinary, £15. 15s. Nickel, 1s. 8d. Antimony, £36. Quicksilver: first hands, £5. 12s. 6d.; second hands, £5. 12s. *Copper shares*, quiet: Cape, 1⅜ to 1½; Copiapo, 1¾ to 1⅞; Libiola, 3⅜ to 3½; Mason and Barry, 2⅛ to 2⅜; Rio Tinto, 14$\frac{13}{16}$ to 14$\frac{15}{16}$; Tharsis, 4¾ to 5.

WOLVERHAMPTON, WEDNESDAY.—In anticipation of Easter, ironmasters are executing all orders, and works are rather busier. Prices continue unsatisfactory. Sheets doubles £6 12s. 6d. upwards, galvanised sheets £10. 10s. upwards, tank plate £7, boiler plates £8 to £9. Pigs quiet, prices fairly steady; Northampton 44s. to 44s. 6d., Derbyshires 44s. 6d. to 45s., Staffordshire cinder pigs 38s. to 39s. Forge hematites 53s. to 55s., foundries, 2s. more. Coal quiet; forge sorts 7s. 6d. to 9s., mill coal 9s., furnace coal 10s. to 12s.

GLASGOW, WEDNESDAY.—Market firm, with fair business. Scotch done at 43s. 2d. and 43s. 2½d. cash, also at 43s 4d. and 43s. 4½d. one month; closing with buyers at 43s. 2d. cash, sellers ask 43s. 2½d. Middlesbrough closes with buyers at 36s. 2½d. cash, sellers ask 36s. 3d. Cumberland hematite done at 45s. 4d. one month; closing with buyers at 45s. 2d. cash, sellers ask 45s. 3d. Middlesbrough hematite closes with buyers at 44s. 4½d. cash, sellers ask 44s. 6d. Copper done at £41. 12s. 6d. three months.

LIVERPOOL OIL AND COLOUR MARKET.

WEDNESDAY.

OILS.—The firmness of palm oil has declined, and the market is now dull. Prices are inclined to be easier. Olive is still in small request, and prices show no alteration. Linseed keeps up to 21s. to 21s. 6d. per cwt., for Liverpool makes in export casks, and the tone of the market is steady. Cotton seed is rather firmer, and 20s. 6d. to 21s. 6d. per cwt. is again wanted for Liverpool refined. Castor oil is steady. Good seconds Calcutta is firm at 2¼d. to 2$\frac{5}{16}$d. Madras is also obtainable in casks for the same figure. Tallow is quiet, fine qualities mostly being in demand. Resin is in fairly good demand, and is firmer; common, 3s. 9d. to 3s. 10½d. per cwt., medium, 4s. 3d. to 6s., fine, 7s. to 9s. 6d. Spirits of turpentine, though ruling most of the week at 22s. 9d., are to-day easier, and 22s. 6d. is now value. Petroleum is steady, at 4¼d. to 5½d. for American, according to quality, and Russian refined 3⅝d. to 3¾d. per gallon.

COLOURS are steady without alteration in prices. Ochres: Oxfordshire, common, £10., medium, £12., best, £15.; Derbyshire, common, 40s.; medium, 50s., best, 60s.; Welsh, best, 70s., seconds, 50s., and common, 18s.; Irish, Devonshire, 40s. to 45s.; French, J.C., 55s. to 60s.; M.C., 65s. to 67s. 6d. Umber: Turkish quiet; Devonshire, 50s. to 55s. White lead, and oxide of zinc unchanged. Venetian red, £6. 10s. to £10. Cobalt: Prepared oxide, 9s. 9d.; black, 9s.; blue, 6s. Zaffres: No. 1, 3s. 6d.; No. 2, 2s. 6d. Oxide of iron: Common, £6.; medium, £10.; finest, £20. Zinc oxide, £23. to £25.

HULL PAINT, OIL, AND COLOUR REPORT.

TUESDAY.

OILS.—The following is a return of the tonnage upon which dock dues have been paid to the North-Eastern Railway Company's docks from the 1st of January to March 10th:—1894, 422,234 tons; 1893, 356,478 tons. The general tendency of the prices of oil seem downward, which is due probably to neither supply or demand individually as to both, there being an average good supply without the altogether good demand, and any fluctuations of prices appear to regulate themselves within a few days, leaving prices each time a little lower; still anything abnormal would decidedly alter the face of things. During the week 7,759 tons of cottonseed have arrived from Alexandria, and 545 tons from Smyrna. The import of linseed for the week has been 22,893 qrs. Refined cotton oil has been inactive, but the tone at the close is firmer. There are buyers at 18s. 4½d. spot; 18s. 6d. March-April, or 19s. May-August. Crude is quoted 16s. 9d. naked spot, and 16s. 10½d. paid for month. The export of refined for the week has been 4,380 cwts. Linseed oil has hardly varied, and closes dull with sellers at 19s. 1½d. naked spot March-April or May-August; last four months still worth 18s. 3d. Casks 17s. 6d., and ordinary barrels 22s. 6d. per ton extra, Boiled and refined ditto from £1. to £2. per ton extra. Exports for the week, 2,000 cwts. Rape oil is down £1. per ton upon the week's quotation, but still in steady demand for the best brands of refined. Castor oil, 2¼d. per lb. for first pressure. Spirits of turpentine, 22s. 6d. per cwt. Olive oil from £31. per tun. Cod oil

cheaper, £17. to £19. per ton. Sod oil in good demand for the paler qualities, from £16. per ton. Pale seal oil, £20. per ton. Brown wool grease, £8. per ton. Engine and cylinder oils from 1s. to 2s. per gallon.

CAKES.—Orders are decidedly better for both kinds. Linseed cakes firm: 95 per cent. pure, £8. 7s. 6d. to £8. 10s.; Russians, £7. 15s. to £8.; Polish, £8. 5s. Oil cakes, £7. to £7. 5s. Cotton cakes in fairly good demand, the market having a better tone: Best makes, £4. 15s.; seconds, £4. 10s. to £4. 12s. 6d Rape cakes also in better demand: East India, £4. 10s.; Black Sea, £3. 17s. 6d.

PAINTS.—The manufacturers are fairly well employed catering for the home markets: Prices are: White lead in oil. £17. 10s. per ton; oxide of zinc paint, £22. per ton; red lead, dry, £13. 10s per ton; Venetian red, dry, from £6. to £10. per ton; oxide of iron, dry, from £9. to £18. per ton; ready mixed paints in 1, 2, 4, 7, and 14 lb. tins, from £26. per ton; oak varnish, from 5s. 6d. per gallon; common black varnish, £5. 10s. per ton, in barrels.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, Tuesday.

According to makers' view of it, sulphate of ammonia is perceptibly stronger, even as compared with the very fair position a week ago. The most assured of them put the prompt value to-day at from £13. 17s. 6d. to £14., but probably there are a few of them who would state it in slightly lower terms. The buying section own to a firm market, but do not fully follow the view of the most sanguine of the makers as above stated. The amount of business put through is not large.

In the mineral oil and paraffin section of the market, the chief feature is the concerted rise in one of the products, being the direct result of the recent meeting of the trade in London. Scale and wax remain in price as before, but the candles produced from these have by agreement been advanced 2d. per 2 doz. lbs. on the common sorts, which brings these up to 3s. 2d. nett per 2 doz. lbs. to the trade. The lowness of the raw material (scale and wax) is readily accounted for by the fact shown in the returns, that American imports into Great Britain have in less than 10 years advanced from 7,000 annually to 30,000.

Common chemicals show very little change, and there is still but a small amount of actual business passing, although the volume of mere inquiry is large.

Chief prices current are:—Soda crystals £2 5s. nett, Tyne; soda ash 48/52° £3. 12s. 6d. to £3. 16s. 3d. nett, Tyne; white alkali 48/52° £4. 10s to £5. 5s. nett, Tyne; alum in lump £5. nett, Glasgow; caustic soda, white, 74° £10. 10s., 70/72° £9. 5s., 60/62° £8. 5s., and cream 60/62° £8., all nett, Liverpool; bleaching powder £7. to £7. 15s., nett, Tyne; saltcake, 17s. 6d.; borax, English refined, £30., and boracic acid, £37. 10s. nett, Glasgow; bicarbonate of soda, 5-cwt. casks, £6. 10s., and 1 cwt. casks £6. 15s. nett, Liverpool; bichromate of potash, 4½d. nett, for Scotch and English deliveries (for export, 4¼d. nett, f.o.b. Glasgow); bichromate of soda, 3¾d. nett, for Scotch and English deliveries (for export, 3½d. nett, f.o.b. Glasgow); chlorate of potash, 7½d. less 5%, Liverpool; nitrate of soda, 9s. 9d.; sulphate of ammonia, £13. 17s. 6d. to £14., f.o.b. Leith; salammoniac, first and second white, £39. and £37. nett, any port; sulphate of copper, £15. 10s., less 5% Liverpool; paraffin scale, hard 1⅞d. per lb.; soft 1⅞d. to 2d.; paraffin wax 120° semi-refined 2⅜d. to 2½d.; paraffin spirit (naphtha), 4¼d. per gallon; paraffin oil (burning), standard No. 1 grade, 5d. at works, for Scotch buyers (English sales, ½d to ¾d. lower); ditto (lubricating) 865° £3. 12s. 6d. to £3. 17s. 6d.; 885° £4. to £5., and 890/895° £5. to £6. Week's imports of raw sugar at Greenock were 17,620 bags.

New Companies.

The Oil and Colour Company. Capital £30,000. in shares of £1. each. This company has been formed to carry on the business of oil and colourmen. The subscribers to the memorandum of association are:—B. Nichols, 84, Great Portland-street, W., gentleman; F. Kennedy, 26, Eardley-crescent, S.W., student of medicine; J. D. Cahill, 5, Woodland-street, Dalston, N.E., tea taster; S. S. Allen, Bedford Park, W., manufacturer; T. B. Best, 16, Bartlett's-buildings, E.C., managing clerk; V. Nisbet, 89, Tollington Park, N., manufacturer; R. S. Moseley, 3, Hanover-court, Milton-street, E.C., merchant.

Thomas and Robert Williamson, Limited. Capital £40,000. in shares of £50. each. This company has been formed to take over the business of varnish, oil, paint, and colour dealers formerly carried on by T. and R. Williamson. The subscribers to the memorandum of association are:—R. Williamson, Sunny Bank, Ripon, manufacturer; E. Williamson, Sunny Bank, Ripon, married woman; T. Williamson, The Meadows, Ripon, manufacturer; J. Whitham, 21, Market-place, Ripon, solicitor; E. H. Williamson, Sunny Bank, Ripon, spinster; A. T. Williamson, The Meadows, Ripon, married woman; F. Smith, 28, Low Skellgate, Ripon, manager.

The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of George E. Davis and Alfred R. Davis, who report professionally upon the value of Chemical Patents.

APPLICATIONS FOR ENGLISH LETTERS PATENT.

Improved Manufacture of Soda and Potash. W. Mills. 4,034. Feb 26
Process and Apparatus for Making Gas from Oils and Tars. J. Laing. 4,053. February 26.
Improved Incandescent Burner. J. Moeller. 4,054. February 26.
Heating Apparatus, particularly for Chemical Processes. O. Hamilton. 4,065. February 26.
Washing and Recovering Bye-Products from Furnace Smoke. H. C. Bull. 4,158. February 27.
Improvements in Tanning Hides. A. Levinstein 4,193. February 27.
Apparatus for Filtering Liquids. L. Bochmann. G. Piltz and B Zoepnek. 4,194 February 27.
Improvement in Disinfecting with Sulphur. H. H. Lake. 4,195. Feb 27.
Improved Manufacture of Varnish. F. A. W. Sly. 4,201. February 27.
Improvements in Sewage Filters. J. Brierley. 4,210. February 28.
Artificial Stone or Marble. P. Baumert and A. Pieck. 4,223 February 28.
Deodorising Exhaust Gases from Gas and Oil Engines. J. Mactear. 4,281. February 28.
Improvements in Dust Collectors or Air Filters. A. Moir and T. Gray. 4,298. March 1.
Electro Deposition of Aluminium. A. H. Harris. 4,325. March 1.
Production of Aluminium. J. Stewart and J. Mason. 4,335. March 1.
Apparatus for Manufacturing Ammonia and Bye-Products. G. Fouler. 4,341. March 1.
Apparatus for Evaporating and Condensing Water. A. Normandy. 4,350. March 1.
Preparation of High Percentage Chemically Pure Super-Oxide of Hydrogen. R. Wolffenstein. 4,423. March 2.
Electrolytic Process for the Manufacture of Chlorine and Alkali. T Parker. 4,472. March 3.
Composition for Polishing or Varnishing. J. S. Macarthur. 4,505. March 3.
Treating and Utilising Gases resulting from the Carbonisation of Coal. R. Dunlop. 4,506. March 3.
Improved Pulp Stainers for Paper-Making Machines. D. N. Bertram. 4,515. March 3.
New Colouring Matter. R. E. Evans. 4,542. March 3.
Improved Smokeless Explosive Compound. E D Poorter, A. Walton, and T. H Andreal. 4,543. March 3.
Improved Process and Apparatus for Evaporating Liquids. W. Smethurst and The Smokeless Heat and Light Syndicate. 4,549. March 3.

Gazette Notices.

PARTNERSHIP DISSOLVED.

J. Pemberton and W. F. Pemberton., glass merchants and silverers, Liverpool, under the style of John Pemberton and Son.

BANKRUPTCY ACTS, 1883 and 1890.

Receiving Order.

Cockrell, E. Lawrence, late trading as C. A. Remington and Co., late Didsbury and Chorlton-on-Medlock, Manchester, oil merchant and refiner.

Adjudications.

Carrol Moses, St. Helens, chemical worker and greengrocer.
Long, Caleb, Fishponds, late oil manufacturer, now out of business.

IMPORTS OF CHEMICAL PRODUCTS AT THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending March 3rd.

Acetic Acid—
Holland, 13 pkgs. A. & M Zimmermann
" 70 F. J. Putz & Co.

Acetone—
Holland, 20 pkgs. A. & M. Zimmermann

Acid Phosphates—
U. States, 160 pkgs. Seaward Brs.

Alkali—
France, 203 c. P. Hecker & Co.

Alum—
Germany, 13 pkgs. Ohlenschlager Brs.

Alumina—
Holland, 29 pkgs. Beresford & Co.

Ammonium Chloride—
Holland, 5 cks. Kaltenbach & Schmit

" 29 H. L renz

Anthracene—
France, 76 pkgs. Burt, Boulton, & Co.
Holland, 77 "

Antimony—
Germany, 13 t. L. & I. D. Co

France, 100 Novelli & Co.
Corsica, 50 Smith, Sundius, & Co.
Australia, 13 Hoare, Wilson, & Co.
Spain, 13 J. Bamber

Asbestos—
Italy, £120 Mory & Co.
" 195 Brit Asbestos Co.

Barytes—
Germany, 23 cks. W. Pope & Co.
" 20 Steinhoff, Sons, & Co.
" 12 Tough & Henderson
Belgium, 38 S. Ward & Co.
" 22 R. Bew
Holland, 44 "
" 7 J. L. Lyon & Co.
" 23 O'Hara & Hoar
Belgium, 66 pkgs. W. Harrison & Co.

Bleaching Soda—
Germany, 71 c. H. Lambert

Boracic Acid—
Italy, 33 pkgs. F. Boehm
" 3 Hodgkinson & Co.

Borax—
Persia, 119 pkgs. Major & Field

Caoutchouc—
Germany, 7 c. Wallace Brs.
" 7 T. H. Lee
" 86 W. Balchin
France, 104 "
" 1 Mess Parisiennes
" 34 Chautard & Christensen
Madagascar, 9 W. M. Smith & Sons
Zanzibar, 6 Clarke & Smith
" 31 L. & I. D. Jt Co.
Portugal, 17 "
P. E. Africa, 14 Prop. Bull Wf.

Castor Oil—
France, 5 cs. W. G. Frith & Co.
Italy, 5 "
" 45 Major & Field
E. Indies, 100 cks. Ross & Deering
" 81 Cayzer, Irvine, & Co.
" 45 H. A. Litchfield & Co.
Belgium, 10 brls. Fuerst Brs.
Italy, 6 cs. A. F. White & Co.
" 10 Hodgkinson, Preaton, & Co.
" 30 Hodgkinson, Treacher, & Co.
" 25 A. Laming & Co.
E. Indies, 60 Anderson, Weber, & Smith
France, 52 Beresford & Co.
" 18 bls. A. Foulon
" 25 brls. Maconochie Brs.

Caustic Potash—
France, 16 drs. Spies Brs. & Co.
" 40 c. J. F. Putz & Co.
Germany, 200 Beresford & Co.

Caustic Soda—
Holland, 110 c. Beresford & Co.

Chemicals *(otherwise undescribed)*
Germany, £5 W. J. Crook
" 5 L. & I. D. Jt Co.
" 5 Pickford & Co.
" 6 M. H. Voss
" 5 cs. Craven & Co.
" 42 pkgs. A. & M. Zimmermann
France, 22 Flageollet & Co.
" 43 Prop. Chmbln.'s Wf.
" £10 Dawson Brs.
Holland, 5 cks. J. Owen

Cream of Tartar—
Holland, 4 pkgs. 3 cks. Kirkpatrick & Co.
France, 103 N. S. S. Co.
" 20 Domeier & Co.
" 15 F. C. Devon & Co.
" 7 Ross & Deering
" 5 G. Boor & Co.
" 5 W. C. Bacon & Co.
" 2 Allan Brs. & Co.
" 20 B. & F. Wf Co., Ltd.
U. States, 20 "
Italy, 8 Thames S. T. & L. Co., Ltd.
" 11 Fellows, Morton, & Co., Ltd.

Dextrine—
France, 5 pkgs. C. Atkins & Nisbet
Germany, 100 J. Barber & Co.

Dyestuffs—
Argols
France, 186 pkgs. N. S. S. Co.
Italy, 32 Thames S. T. & L. Co., Ltd.

Cochineal
Canaries, 33 pkgs. Swanston & Co.
" 4 W. M. Smith & Sons
" 7 Park, Macfadyen, & Co.
" 12 Sperling & Williams
" 2 Kuhner, Henderson, & Co.
" 11 Marshall & French
" 10 Johnson, Hicks, & Co.

Extracts
Belgium, 105 pkgs. T. H. Lee
" 50 B. & F. Wf Co., Ltd.
" 40 cs. H. Johnson & Sons
Austria, 111 brls. J. H. Rowntree
France, 38 drs. Carey & Sons
" 4 pkgs. R. J. Fullwood & Bland
Denmark, 13 "

Fustic
Hayti, 7 t. Churchill & Sim

Gambier
E. Indies, 2,953 pkgs. 692 brls. L. & I. D. Jt. Co.
" 462 Brinkmann & Co
" 486 W. Schutte
Holland, 263 Von der Meden & Co.

Indigo
E. Indies, 272 chts. L. & I. D. Jt. Co.
" 47 Croysdale & Co.
" 122 R. Von Glehn & Sons
" 87 Park, Macfadyen, & Co.
" 20 F. Huth & Co.
" 30 Eales & Rutherford
" 28 H. Lambert
" 25 H. W. Jewsbury & Co
" 82 Arbuthnot, Latham, & Co.
" 38 Herrmann & Co.
" 55 P. & O. Co.
" 29 Darling Brs.
" 23 H. Grey, jun.
" 89 Elkan & Co.
" 29 F. W. Heilgers & Co.
" 8 M. Erdmann & Co.
" 42 Deutsche Bank
" 13 London & Hanseatic Bank
" 10 W. Johnston & Co.
" 152 Ernsthausen & Co
" 10 Henderson, Hogg, & Co.
" 18 E. Theodore & Co.
" 7 Parsons & Keith
" 21 J. Kenyon & Sons
" 45 E. Bower & Co.
" 22 Ralli Brs.
" 7 T. Barlow & Bro
" 40 Ripley, Roberts, & Co.
" 4 J. Owen
France, 65 L. & I. D. Jt. Co.
Germany, 5 Thomasset & Co.
Italy, 7 Ernsthausen & Co.
E. Indies, 25 pkgs. Ross & Deering

Madder
Holland, 9 pkgs Skilbeck Bros.

Myrabolams
E. Indies, 2,911 pkgs L. & I. D. Jt. Co.
" 1,000 A. Hagan
" 267 bgs. Clarke & Smith
" 1,240 Baxter & Hoare
Belgium, 319 J. Graves

Sumac
Italy, 500 pkgs. C. S. Lovell
" 500 J. Graves
" 300 F. Roberts
" 650 Bailey & Leetham
France, 100 L. & I. D. Jt. Co.
" 100 Skilbeck Bros.
Italy, 130 J. Knill & Co.
" 600 bgs. J. Kitchin, Ltd.

Tanner's Bark
Natal, 12 t. Anning & Cobb
" 32 A. & W. Nesbitt
Adelaide, 103 Baxter & Hoare
France, 5 Beresford & Co.
Belgium, 29 Leach & Co.

Turmeric
E. Indies, 101 pkgs. Devitt & Hett
" 75 Clarke & Smith

Dyestuffs *(otherwise undescribed)*
France, 1 cs. Hernu, Peron, & Co

Farina—
Holland, 50 pkgs. J. Barber & Co.
" 100 G. Hornzee
Germany, 50 Ohlenschlager Brs.
" 50 Pronk, Davis, & Co.

Glucose—
Germany, 200 pkgs. 200 c. J. Barber & Co.
" 17 30 c. Beresford & Co.
France, 550 3,030 L. Sutro & Co.
" 120 320 L. Norman & Co., Ltd.
Germany, 25 200 J. Knill & Co.
" 600 600 Baxter & Hoare
" 360 300 J. Frank & Co.

Infusorial Earth—
Germany, £31 W. Byford

Iron Sulphate—
Germany, 1 ck. B. & N. Wf. Co.

Magnesium—
Germany, 1 pkge. Phillipps & Graves

Manganese—
Australia, 300 t. Harrold Brs.

Manganese Borate—
Germany, 20 kgs Petri Brs.

Manganese Oxide—
Germany, 7 cks. H. Lambert

Manure—
E. Indies, 613 t. A. Hunter & Co.
Germany, 10 Magee, Taylor, & Co.

Methyl Alcohol—
Germany, 10 dms. Stein Brs

Mica—
E. Indies, £180 F. Claydon & Co.
" 445 W. M. Smith & Sons

Ochre—
France, 42 cks. Beck & Pollitzer
Holland, 6 cs. 13 pkgs Phillipps & Graves
France, 64 cks. J. L. Lyon & Co.

Paraffin Wax—
U. States, 536 brls. H. Hill & Sons
" 340 Mordaunt Brs
" 2,208 500 cs. J. H. Usmar & Co.

Phosphate Rock—
France, 113 t. A. Hunter & Co.

Pitch—
U. States, 53 cks. T. Simpson

Plumbago—
U. States, 72 brls. Marshall & French
Cochin, 117 L. & I. D. Jt Co.
Ceylon, 251 J. Thredder, Sons, & Co.
" 99 Beresford & Co.
Belgium, 2 Scruttons Ltd

Potassium Carbonate—
France, 104 c. J. A. Reid

Potassium Chloride—
France, 31 drs. Carey & Sons

Potassium Cyanide—
Holland, 5 pkgs. F. Boehm

Potassium Permanganate—
Germany, 20 pkgs. H. Lorenz

Potassium Sulphate—
Germany, 508 bgs. Bessler, Waechter, & Co.
France, 20 pkgs. 17 drs. Mead, Son & Co.
" 50 Petri Brs
" 6 F. J. Putz & Co.

Pumice Stone—
Italy, 3½ t. G. W. Largen
" 13 O Hara & Hoar

Pyrites—
Spain, 4,110 t. C. Tennant, Sons, & Co.
" 700 Anderson, Anderson, & Co.
" 1,000 C. L. Vasey & Co.

Quicksilver—
Spain, 5,000 flks. N. M. Rothschild & Sons

Rosin—
U States, 50 brls. H. Hill & Sons
" 200 F. & S. Chiesman & Co.

Saltpetre—
Chili, 70,616 bgs. Angl-Cont. Guano Wks.
Germany, 1,500 "
E. Indies, 1,591 Co-op. Lgtge Assn.
Germany, 50 kgs. J. Hall & Son
" 20 Brown & Elmslie
" 70 cks. T. Merry & Son
E. Indies, 1,387 bgs. Lucas & Spencer's Wf.
" 351 Ralli Brs.
Holland, 100 J. Owen

Soda—
Holland, 10 cks. J. Barber & Co.
France, 200 Carey & Sons

Sodium Bicarbonate—
Holland, 40 c. A. & M. Zimmermann

Sodium Hyposulphite—
Holland, 15 pkgs. F. Boehm

Sodium Sulphate—
Belgium, 24 cs. Beresford & Co.

Starch—
Belgium, 662 pkgs. F. Rosenthal & Co.
" 212 F. Claydon & Co.
" 100 Leach & Co.
Germany, 2,240 Horne & Co.
" 34 Phillipps & Graves
Holland, 210 "
" 2,266 Little & Johnston
" 840 Vokins & Co.
" 570 A. Starck
France, 6 Dutrulle, Solomons, & Co.
U States, 1,365 Beck & Pollitzer

Stearine—
U. States, 5 cks. Beresford & Co.
France, 72 bgs. "
Belgium, 46 H. Hill & Sons
U. States, 5 cks. J. Goddard & Co.
Belgium, 63 bgs. Hammond & Co.
France, 80 Walbaum & Tosetti

Sulphur—
Italy, 100 t. Johnson & Hooper
" 5 Typke & King
Belgium, 1 Forwood Brs. & Co
France, 1 E. W. Carling & Co.

Tartaric Acid—
Holland, 8 pkgs. Kirkpatrick & Co.
" 36 B. & F. Wf. Co.

Tin Oxide—
Holland, 7 cks. H. Lambert

Ultramarine—
Germany, 2 cs. Glasser & Vogeler
" 13 4 cks. 69 pkgs. Steinhoff, Sons & Co.
Germany, 4 H. Brooks & Co.
Holland, 12 pkgs. Hernu, Peron, & Co.
" 24 cks. Thames S. T. & L. Co.
" 21 pkgs. Haeffner, Hilpert & Co.
Germany, 2 cks. "
Belgium, 4 brls. Leach & Co.
Holland, 2 cks Phillipps & Graves

Varnish—
Belgium, 16 pkgs. Stobbs, Wilson, & Co.
U. States, 15 Taylor Brs.
" 3 D. Judson & Sons
" 2 D. Brodie & Co
" 20 Pinchin, Johnson, & Co.

Verdigris—
France, 3 pkgs. Prop. Chmbln.'s Wf.

Vermilion—
Belgium, 24 brls. Magee, Taylor, & Co.

White Lead—
Holland, 30 cks. Burrell & Co
France, 46 W. Harrison & Co
Germany, 30 Elkan & Co
" 27 Burrell & Co
" 59 T. & W. Farmiloe
" 77 Randall Brs
" 27 W. A. Rose & Co.
Holland, 20 Blundell, Spence & Co.
Belgium, 1 S. Bowley & Son
" 17 pkgs. Leach & Co.
" 17 L. le Personne & Co.

Zinc Oxide—
Holland, 30 cks. Prprs. Dowgate Dk.
" 500 Soundy & Sons
" 107 brls. M. Ashby, Ltd.
Germany, 50 "

LIVERPOOL.

Week ending March 1st.

Acetate of Lime—
New York, 1,500 bgs.

Antimony Ore—
Mollendo, 311 sks. J. Tizolo
Antofagasta, 138 Aillon Aramayo
" 760 A. Gibbs, Sons, & Co.

Barytes—
Antwerp, 90 bgs. 35 cks.

Bone Meal—
Kurrachee, 1,000 bgs. W. & R. Graham & Co.

Camphor—
Hamburg, 1 brl.

Chemicals (*otherwise undescribed*)
New York, 20 cks.
Chloride of Lime—
Antofagasta, 500 bgs.
Dyestuffs—
Argols
Bordeaux, 44 pkgs.
Cutch
Rangoon, 3,124 bxs.
Extracts
Bordeaux, 150 cks.
Fustic
Vera Cruz, 259 ps. R. B. Watson & Co.
Tampico, 4,785 Cetting & Co.
Myrabolams
Bombay, 2,675 bgs. Forbes, Forbes & Co.
,, 6 074 D. Sassoon & Co.
,, 1,096 W. & R Graham & Co.
,, 165 E. D. Sassoon & Co.
,, 9,893
Valonia
Smyrna, 77 t. 821 bgs.
,, 25 E. Shahum & Co.
,, 175 Barry Brs.
Dyestuffs (*otherwise undescribed*)
New York, 14 brls. 105 bxs.
Glucose—
Baltimore, 150 brls.
Limestone—
Antwerp, 1 crt.
Ochre—
Rouen, 56 cks. Co-op. W'sale Society, Ltd.
Paint—
Boston, 25 cs. H. Tearce
,, 16 1 hf. cs. Bahr, Behrend & Ross
Hamburg, 30 cks.
Paraffin Scale—
New York, 510 brls. G. B. Taylor
Rangoon, 330 cs.
New York, 430 brls. Standard Oil Co.
Paraffin Wax—
Baltimore, 300 brls. Makin & Bancroft
Phosphate—
Dunkirk, 285 t.
Pitch—
Boston, 2 brls. Pearson & Beninon
Plumbago—
Colombo, 4 brls.
Potashes—
Portland, 28 brls.
Antwerp, 4
Potassium Chlorate—
Antwerp, 100 brls.
Pyrites—
Huelva, 4,284 Matheson & Co.
Rosin—
Charleston, 1,000 brls.
Bayonne, 624
Saltpetre—
Hamburg, 4 cks.
Soap—
New York, 468 brls.
St. Thomas, 1 bx. S. Wright
Bordeaux, 20 cs.
N. Orleans, 2,303 brls.
New York, 52 pkgs. Davies, Turner & Co.
Philadelphia, 15 cs.
Soapstone—
Bordeaux, 300 bgs. G. G. Blackwell
Sodium Nitrate—
Iquique, 10,235 bgs.
Starch—
New York, 160 sks.
Philadelphia, 122 brls. 100 bxs. J. Howard & Co.
Boston, 840 sks.
Antwerp, 20 bgs.
Stearine—
New York, 50 hhds.
Antwerp, 111 bgs.
Tallow—
New York, 110 tcs. Bell, Sons & Co.
,, 175 50 hhds.
Tartar—
Bordeaux, 13 cks.
Turpentine—
Hamburg, 6 cs.
Waste Salt—
Hamburg, 203 bgs.
Zinc Oxide—
New York, 100 brls.
Antwerp, 46 3 cks.

MANCHESTER.

Week ending March 3rd.

Acetic Acid—
Antwerp, 20 blns.
Albumen—
Hamburg, 4 cs. N. Greenshaw & Co.
Alum—
Rotterdam, 6 cks.
Alumina Sulphate—
Rotterdam, 59 cks.
Ammonium Chloride—
Rotterdam, 1 ck. Simpson, Howden & Co.
Ant mony Oxalate—
Rotterdam, 2 cks.
Asbestos—
Rotterdam, 2 bls. Simpson, Howden & Co.
Barytes—
Rotterdam, 130 bgs. Simpson, Howden & Co.
,, 45 cks.
Castor Oil—
Antwerp, 29 brls.
Chemicals (*otherwise undescribed*)
Rouen, 25 cks
Rotterdam, 5 12 bgs. 1 bx.
Colours—
Rotterdam, 24 cs. 4 bls. Simpson, Howden & Co.
,, 20 31 cks. 8 brls. 3 bxs.
Hamburg, 18 cks. Houston & Laurisch
,, 2 Ashton, Kinder & Co
,, 1 H. Kupperley
Antwerp, 8 bxs. 2 brls.
Dyestuffs—
Alizarine
Rotterdam, 126 cks. Simpson, Howden & Co.
Logwood
Laguna de Terminos, 285 t. D. Midgley & Sons
St. Marc, 448 t. E. Brownbill & Co.
Madder
Rotterdam, 1 ck. Simpson, Howden & Co.
Farina—
Rotterdam, 1,000 bgs.
Hamburg, 60 H. Taberner & Co.
,, 155
Antwerp, 5
Limestone—
Antwerp, 2 fms. 1 cs.
Nitrate—
Rotterdam, 4 cks.
Oxalic Acid—
Rotterdam, 13 cks.
Pitch—
Rotterdam, 20 cks. 13 cs. Simpson, Howden & Co.
Potassium Sulphate—
Rotterdam, 110 cks. 17 brls. Simpson, Howden & Co.
Saltpetre—
Hamburg, 1 cs. J. Gibson & Co.
Soda Crystals—
Antwerp, 24 cks.
Starch—
Hamburg, 100 bgs. A. Bauman & Co
,, 800 Lever W'sale Grocery Co.
,, 132 P. Crook & Sons
Antwerp, 442 cs.
Tar Oil—
Rotterdam, 12 cks. Simpson, Howden & Co.
Tartar—
Nantes, 4 cks.
Hamburg, 1 P. Segner
Tartaric Acid—
Rotterdam, 29 cks.
Tin Oxalate—
Rotterdam, 1 ck.
Ultramarine—
Rotterdam, 3 cs. Simpson, Howden & Co.
,, 11 23 cks.
Verdigris—
Nantes, 4 cks.
Waste Salt—
Hamburg, 302 bgs.
Zinc Oxide—
Rotterdam, 50 cks.

HULL.

Week ending March 3rd.

Aniline Salt—
Reval, 8 cks. Wilson, Sons, & Co., Ld.
Barytes—
Rotterdam, 47 cks. Blundell, Spence & Co.
Bone Meal—
Bombay, 1,979 bgs.
Caoutchouc—
Hamburg, 1 cs. Wilson, Sons, & Co., Ltd.
Castor Oil—
Bergen, 18 cs. Wilson, Sons, & Co., Ld.
Chemicals (*otherwise unaescribed*)
Dunkirk, 48 pks. Wilson, Sons, & Co., Ld.
Hamburg, 5 cks. Bailey & Leetham
Danzig, 6
Stettin, 4 Wilson, Sons, & Co., Ltd.
Bremen, 3 cs. Veltmann & Co.
Antwerp, 63 pks. Wilson, Sons, & Co., Ld.
Colours—
Rotterdam, 36 cks.
Flushing, 12 pkgs.
Rotterdam, 5 pks. G. Lawson & Sons
,, 34 cks. 4 cs Hutchinson & Son
,, 1
Copenhagen, 9 brls. Wilson, Sons, & Co., Ld.
Danzig, 24 cks.
Flushing, 10 4 cs. Hutchinson & Son
Bremen, 16
Rotterdam, 29 12 113 pks. W. & C. L. Ringrose
,, 2 brls. Wilson Sons, & Co., Ld.
Antwerp, 22 cks.
Hamburg, 23 Bailey & Leetham
Dextrine—
Stettin, 170 bgs. Wilson, Sons, & Co., Ld.
Dyestuffs—
Alizarine
Rotterdam, 3 cks. 3 cs. W. & C. L. Ringrose
Cochineal
Hamburg, 10 bls. Wilson, Sons, & Co., Ld.
Myrabolams
Bombay, 9,431 bgs.
Orchella
Hamburg, 106 bls.
Shumac
Limassol, 960 bgs.
Farina—
Hamburg, 50 bgs. Wilson, Sons, & Co., Ld.
Ghent, 80 bxs.
Stettin, 748 bgs. Wilson, Sons, & Co., Ld
,, 950
Harlingen, 100
Glucose—
Stettin, 800 bgs.
Hamburg, 100
Kaolin—
Rotterdam, 264 bgs. 20 cks. Reckitt & Sons
Phosphates—
Dunkirk, 752 bgs. Wilson, Sons, & Co., Ltd.
Ghent, 1,053
Antwerp, 1,020 Wilson, Sons, & Co , Ld.
Plumbago—
Cologne, 23 cks.
Potash—
Rotterdam, 20 cks.
Saltpetre—
Rotterdam, 135 bgs. Wilson, Sons, & Co., Ld.
Soda—
Antwerp, 2 brls.
Rotterdam, 1 ck. W. & C. L. Ringrose
Starch—
Antwerp, 50 cs. Bailey & Leetham
Bremen, 888 Veltmann & Co.
Stearine—
Antwerp, 98 bgs Wilson, Sons, & Co., Ltd.
Sulphur—
Antwerp, 1 brl. Wilson, Sons, & Co., Ld.
Tartar—
Bordeaux, 8 cks. Rawson & Robinson
Tartaric Acid—
Rotterdam, 2 cks. Woodhouse & Co.
Tin Oxide—
Rotterdam, 5 cks. Hutchinson & Son
Turpentine—
Bordeaux, 10 brls.
Libau, 52
Ultramarine—
Cologne, 1 ck.
Rotterdam, 18 pkgs.
Varnish—
Antwerp, 7 brls.
Waste Salt—
Hamburg, 1,253 bgs.
White Lead—
Cologne, 84 cks.
Rotterdam, 28 Tudor & Sons
Antwerp, 47 Bailey & Leetham

GLASGOW.

Week ending March 8th.

Barium Sulphate—
Antwerp, 128 cks. 400 bgs.
Barytes—
Rotterdam, 45 cks. J. Rankine & Son
Castor Oil—
Antwerp, 86 cks.
Chrome Alum—
Rotterdam, 1 ck. J. Rankine & Son
Colours—
Rotterdam, 25 cks 3 cs. J. Rankine & Son
,, 38 pkgs.
Hamburg, 21 cks. 1 cs.
Dyestuffs—
Alizarine
Rotterdam, 169 cks. 2 cs. J Rankine & Son
,, 110 pkgs.
Argols
Bordeaux, 35 bgs
Extracts
New York, 20 brls.
Antwerp, 2 cks.
Lead Acetate—
Antwerp, 19 cks.
Limestone—
Rouen, 2 crts
Ochre—
Rouen, 5 cks.
Phosphates—
Dunkirk, 500 bgs.
Antwerp, 2,000
Pitch—
Antwerp, 7 cks.
Potash—
Rotterdam, 30 cks. J. Rankine & Son
Pyrites—
Huelva, 1,722 t.
Starch—
Amsterdam, 20 bxs.
Tartar—
Bordeaux, 5 cks. 6 cs.
White Lead—
Rotterdam, 289 cks. J. Rankine & Son
Zinc Ashes—
Antwerp, 9 cks.
Zinc Oxide—
Rotterdam, 10 cks. J. Rankine & Son
Zinc Sulphate—
Rotterdam, 10 brls. J. Rankine & Son

TYNE.

Week ending March 3rd.

Earth—
burg, 49 cks.
m Chloride—
rdam, 5 cks. Tyne S. S. Co.
es—
rdam, 17 cks Tyne S. S. Co.
a—
burg, 50 bgs.
anese—
rdam, 2 cks. Tyne S. S. Co.
h—
burg, 5 cks.
s—
a, 1,480 t.
2,367 Scott Bros.
tre—
burg, 3 cks.
—
rdam, 2 cs. Tyne S. S. Co.

Starch—
Rotterdam, 199 cs. Tyne S. S. Co.

GOOLE.

Week ending February 28th.

Acetic Acid—
Rotterdam, 2 cs.
Albumen—
Ghent, 3 cs.
Alkali—
Hamburg, 11 cks
Calais, 2
Alum—
Rotterdam, 33 cks.
Anthracene—
Boulogne, 2 cks.
Antimony—
Boulogne, 5 cks.
Caoutchouc—
Boulogne, 1 ck.

Carbonate of Lime—
Antwerp, 127 bgs.
Dyestuffs—
Alizarine
Rotterdam, 19 brls.
Indigo
Rotterdam, 18 chts.
Logwood
Jamaica, 517 t.
Dyestuffs (*otherwise undescribed*)
Boulogne, 16 cks. 13 cs. 7 pkgs.
Ghent, 7 1
Farina—
Rotterdam, 100 bgs.
Antwerp, 10
Delfszyhl, 688
Hamburg, 360
Glucose—
Dunkirk, 160 bgs.
Potash—
Rotterdam, 10 cks
Dunkirk, 45 81 dms.

Pyrites—
Seville, 1,040 t.
Saltpetre—
Rotterdam, 200 bgs.
Waste Salt—
Hamburg, 252 cks. 132 t. 500 bgs.
Zinc Oxide—
Antwerp, 20 brls.

GRIMSBY.

Week ending March 3rd.

Caoutchouc—
Rotterdam, 2 cs.
Dyestuffs (*otherwise undescribed*)
Dieppe, 11 cks.
Farina—
Hamburg, 30 bgs.
Kainit—
Rotterdam, 170 bgs.
Manure—
Rotterdam, 10 cks.

EXPORTS OF CHEMICAL PRODUCTS
OF
THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending March 7th.

—
Cruz, 1 t. £11
burne, 5 c. 13
nia (Liquid)—
Bay, 8 cs. £12
ne, 9 c. 66
nium Carbonate—
res, 1 t. 3 c. £37
aux, 5 cks. 28
ide, 1 cs. 10
York, 125 brls. 760
nium Chloride—
d, 1 t. 2 c. £43
rah, 2 10 87
nium Sulphate—
nique, 150 t. £2,002
ort News, 101 9 c. 1,375
bo 6 4 97
rdam, 150 2,100
rdam, 51 2 586
ic—
1 t. £16
York, 109 brls. 270
burne, 4 64
ane, 15 c. 12
ic Acid—
burne 4 cks. £52
—
Bay, 2 cs £5
burg, 6 cks. 46
1 t. 50
lic Acid—
burne, 6 c. £10
ey, 18 6
Town, 1 cs. 6
rdam, 24 cks. 85
n Bisulphide—
delphia, 3 t. 13 c. £62
tirk, 6 7 76
ideo, 1 13
ic Potash—
aide 1 cs. £15
ic Soda—
land, 5 t. 3 c. £50
er, 5 9 62
burne, 16 22
Bay, 6 10 172
ane, 10 12 122
ndon, 10 14
goa Bay, 9 10
icals (*otherwise undescribed*)
burne, 1 cs. 42 pkgs. £96
ndon, 2 1 kg. 13
Bay, 2 8 cks. 27
n, 18 c. 80
, 8 33
ide, 5 kgs. 11
Acid—
ndon, 1 c. £7
erp, 4 cks. 142
, 7 10 336
ay, 1 cs. 10
rdam, 1 5 kgs 71
burne, 10 75
burg, 6 40
, 10 76

Coal Products—
Alizarine
Boston, 6 kgs. £10
Lisbon, 1 5
Anthracene
Rotterdam, 18 cks. £280
Coal Tar Dyes
Boston, 4 pkgs. £101
Creosote Oil
Trinidad, 30 brls. £16
Naphthaline
Hamburg, 176 cks. £199
New York, 269 pkgs. 371
Paraffin Wax
Libau, 50 bgs. £104
Pitch
Melbourne, 11 pkgs. £8
Terneuzen, 2,441 t. 2,723
Genoa, 23 brls 44
Naples, 550 690
Cette, 1,653 2,314
Grenada, 2 2
Boston, 450 198
Pyridine
Hamburg, 25 cks. £189
Pyridine Bases
Rotterdam, 7 dms. £115
Tar
Adelaide, 30 dms. £6
Philadelphia 200 brls. 100
Grenada, 2 rlts. 1
Toluol
Rotterdam, 51 rns 19 pns. £315
Coal Products (*otherwise unaes.*)
Melbourne, 25 dms. 10 brls. £15
Copper Sulphate—
B Ayres, 5 t. 9 c. £80
Stettin, 1 3 18
Hobart, 1 17
Fiume, 6 199
Genoa, 20 12 300
Napier, 5 5
Cream of Tartar—
Sydney, 2 t. 4 c. £155
Melbourne, 1 73
Disinfectants—
M. Video, 2 c. £6
Melbourne, 4 cs. 2 23
Calcutta, 2 t. 18 250 dms. 98
Swatow, 25 10
Hamburg, 25 cks. 125
Bombay, 1 10
Bremerhaven, 15 19
Brisbane, 20 kgs. 10
Gold Chloride—
Cape Town, £22
Hypophosphites—
Boston, 10 c. £175
Iodoform—
Algoa Bay, 1 cs. £28
Manure—
St. Kitts, 32 t. £380
Nevis, 7 79
Antigua, 36 410
Stettin, 748 14 c. 2,625
Rouen, 225 1,000
Jersey, 207 7 1,667
Oxalic Acid—
Libau, 5 t. 141
Phosphorus—
Sta Cruz, 5 c. £60

Potash Salts—
Natal, 31 t. 11 c. £3,709
Potassium Bichromate—
Brisbane, 7 c. £21
Potassium Chlorate—
Hong Kong, 5 c. £18
Melbourne, 5 18
Boston, 1 t. 70
Potassium Oxalate—
Odessa, 7 c. £18
Saltpetre—
Melbourne, 4 t. 10 c. £101
Sydney, 3 66
Wellington, 12 15
Napier, 5 7
Salts of Tartar—
Lisbon, 10 c. £12
Salts of Soda & Salts of Lime—
New York, 2 cs. 10 cks. £140
Sheep Dip—
M. Video, 102 cs. 5 t. 5 c. £523
Soda Crystals—
B. Ayres, 1 t. 13 c. £4
Sydney, 252 4 567
Constantinople, 15 50
Newcastle, 64 16 161
Soda Salts—
Brussels, 2 cs. £14
New York, 7 t. 2 c. 125
Sodium Bicarbonate—
B. Ayres, 10 c. £3
Brisbane, 1 t. 8
Algoa Bay, 10 8
Sodium Tartrate—
Canada, 4 cks. £61
Sulphur—
Barbadoes, 20 t. £85
Sulphuric Acid—
Algoa Bay, 3 cs. £7
Superphosphate—
Martinique, 350 t. £1,400
Harlingen 34 16 c. 112
Tartaric Acid—
Algoa Bay, 4 c. £22
Sydney, 2 t. 5 237
Melbourne, 5 485

LIVERPOOL.

Week ending March 7th.

Alkali—
Oporto, 7 t. 9 c. £27
Alkali Waste—
Antwerp, 5 t. 13 c. 3 q. £14
Alum—
Samarang, 11 t. 5 c. £79
Rio de Janeiro, 1 7
Valencia, 2 4 11
Tripoli, 1 0 7
Alexandria, 6 19 1 q 24
Galatz, 9 6 3 43
Alum Cake—
Calcutta, 6 t. 3 c. 1 q. £19
Alumina Sulphate—
Sydney, 10 t. 16 c. £60

Ammonium Carbonate—
Vera Cruz, 4 c. 2 q. £12
Leghorn, 15 28
Venice 5 2 7
Antwerp, 1 1 2 36
Rouen, 2 70
Ammonium Chloride—
Galatz, 12 c £24
Alexandria, 3 t. 1 112
Calcutta, 3 102
Ibrail, 1 2 40
Salaora, 4 7
Marseilles, 2 2 80
Bombay, 3 15 134
Smyrna, 1 2 41
Valparaiso, 4 1 88
Alexandretta, 1 1 1 q. 38
Philadelphia, 9 13 240
Ammonium Sulphate—
Ferrol, 50 t. 13 c. £604
Valencia, 213 3 1 q 2,945
St. John's, N.B, 2 10 35
Amsterdam, 82 2 3 1 150
New York, 52 9 2 82
Baltimore, 49 16 685
Las Palmas, 30 1 1 47
Almeria, 9 2 0
Gr. Canary, 3 7
3
Bleaching Powder—
Ancona, 16 cks.
Baltimore, 131
Boston, 470
Lisbon, 6
Naples, 62
New York, 396
Rouen. 14
San Sebastian, 56
Bombay, 8 cs.
Genoa, 53
Ghent, 12
Bone Waste—
Rouen, 13 t 10 c. 2 q. £130
Boracic Acid—
Naples, 13 c 2 q. £27
Borax—
Amsterdam, 8 c. £12
Rotterdam, 2 t. 5 75
E. London, 4 14 3 q. 170
Antwerp, 2 17 77
Alexandria, 1 2 30
Hamburg, 12 4 3 368
Rouen, 2 10 75
Bilbao, 5 130
Borax Crystals—
Vera Cruz, 1 t. 2 c. £26
Caoutchouc—
Rangoon, 7 bls
Rio de Janeiro, 1 cs.
Carbolic Acid—
Rotterdam, 2 t. 19 c. £7
Trinidad, 1 cs. 8
Rouen, 2 16 176
Philadelphia, 1 85
Hamburg, 2 2 q. 7
Hiogo, 2 105
Madras, 1 5
Oporto, 8 15

Caustic Soda—

Alexandria,	113 dms.			
Antwerp,	25	10 brls.		
Arica,	17			
Baltimore,	100	100		
Boston,	175	28		
B. Ayres,	91			
Calcutta,	20			
Ceara,	34			
Galatz,	50		220 pkgs.	
Hamburg,	96			
Ibrail,	38			
Malaga,	293			
Marseilles,	35			
M. Video,	50			
New York,	490			
Odessa,	32			
Oporto,	30			
Pernambuco,	100			
Rouen,	95			
San Francisco,	100			
San Sebastian,	50			
Santander,	20			
Seville,	325	100		
Valencia,	32			
Amsterdam,	122	3		
Brisbane,	15			
Chicago,	50			
Fiume,	83			
Genoa,	73			
Havana,	135			
Leghorn,	88			
Lisbon,	35			
Manila,	350			
Palermo,	45			
Pernambuco,	30			
Santos,		15		
Valparaiso,	25			

Chemicals (*otherwise undescribed*)

Larnaca,		4 c.		£7
Odessa,	2 t.			60
Samsoun,		3		5
Beyrout,	1	1		38
Venice,	2	2		71
Genoa,	3	9		118
Patras,		2	1 q	4
Palermo,		10		18
Rouen,	2			41

China Clay—

Bombay,	15 t.			
Boston,	767	10 c.		
Santander,	21 cks.			

Citric Acid—

Santander,		10 c.		£76

Coal Products—

Alizarine Oil

Lisbon,	1 ck.			

Aniline Colours

New York,	1 cs.	12 cks.		
Shanghai,	50			

Aniline Oil

Rouen,	16 cks.			

Aniline Salts

New York,	25 cs.			
Piræus,	6 cks.			

Anthracene

Rotterdam,	15 t.	16 c.		

Pitch

Carril,	100 brls.			
Galatz,	14			
Rouen,	3 cks.			
Ancona,	1,328 t.			

Tar

Galatz,	50 brls			
Akassa,	10			

Copper Sulphate—

Oporto,	10 t.	3 c	2 q.	£148
Lisbon,	53	10	3	792
B. Ayres,	15	1	1	218
Bilbao,	1		3	16
Seville,	2	8	2	38
Ancona,	5	2		73
Rouen,	65	1		975
Brindisi,	7	3	2	104
Bari,	3	1	1	43
Trieste,	2	8	1	34
Naples,	32	17		482
Genoa,	11	7	2	176
Venice,	25			361
Nantes,	35	6		570
St. John's, N.B.,		6		6
Leghorn,	17	14	2	253
Catania,	9	9	1	135
Palermo,	2	1		29
Bordeaux,	220	9		3,752

Copperas—

Tripoli,	1 t.	11 c.		£3
Valencia,	2			4
Alexandretta	5			8

Disinfectants—

Bombay,	1 t.	3 c.		£14

Dried Blood—

Gr. Canary,	16 t.	6 c.	3 q	£164

Flowers of Sulphur—

Punta Arenas,	2 t.		2 q.	£15

Glucose—

Malta,	40 bgs.			

Guano—

Valencia,	150 t.	2 c		£643

Iron Sulphate—

Valparaiso,	23 t.			£46

Lime—

Warri,	6 t.	14 c.	2 q.	£6
Old Calabar,	2	8		7
Antigua,	2	5		

Manganese Ore—

Bordeaux,	1 t.	7 c.		

Manure—

Bordeaux,	2 t.	5 c.		£10
Hamburg,	49	6	2 q.	222
Valencia,	81	5	1	187
Antwerp,	44	19	1	176
St. Nazaire,	550	3	1	2,048
Havre,	220	2	2	937

Ochre—

Progresso,	20 brls			
Valparaiso,	20			
Kingston, Jam.,	5			

Paint—

Callao,	145 cs.	28 dms.		
Cape Town,		11 cks.		
Dunkirk,			16 brls.	
Guayaquil,	15			
Halifax,	9 dms			
Junin,	8		1	
Maracaibo,	135 kgs.			
Old Calabar,	2 cs.	15	6	46 dms.
Opobo,		2		
Port au Prince,				
Salaverrey,	18 brls.			
Sierra Leone,		4		
Tocapilla,				8 cs.
Trieste,		16	2	
Valparaiso,		18	46	
Vera Cruz,	12 kgs.			
Ceara,		2	1	
Cienfuegos,		2		
Corfu,	14			
Curacao,	50			
Gibraltar,		2		
Havana,		3		
Kingston, Jam.,	150			
Manilla,		62		
Oporto,			1	
Para,	9 brls.	5		
San Juan,	200			

Painters' Colours—

Alexandria,	10 dms.	1 bx.	1 tk.	1 brl. 2 cks.
Bahia,	10 cks.	86 kgs.		6 cs.
Belize,	4	63		
Benquella,	4	20 brls.	80 dms.	
Bombay,	720 kgs.		30	70 cs.
Boston,	3			
B. Ayres,	40	1	81	19
Cienfuegos,		3		
Guantanamo,		8		
Guayaquil,	11 kgs			
Havana,		29		
Lisbon,	1			
Manila,	310			
Mount Forest,			3	
New York,				6
Philadelphia,	300 pkgs.	15 cks.		
Progresso,	10 brls.			
Rangoon,	57 kgs.			
St. John's, N.F.,				4
Smyrna,	300 kgs			
Valparaiso,	140	2		41
Abonnema,	20			
Barcelona,				47
Canada,	5			
Malta,			24	4
Manaos,		11		
M. Video,	3	20		

Paraffin Wax—

Patras,	8 bgs	15 cs.		

Phosphate of Lime—

New York,	1 t.	2 c.		£17

Phosphorus—

Vera Cruz,	1 t	3 c.	1 q	£140

Potashes—

M. Video,	2 t.	16 c.		£47

Potassium Bichromate—

Ancona,		7 c.	3 q.	£16
Antwerp,	5 t.	13		209

Potassium Chlorate—

Copenhagen,	5 t.		296
Antwerp,	5	10 c	316
Boston,	10		618
New York,	17	10	1,016
Kobe,	2	10	158
Nagasaki,	1	10	105
Hiogo,	20		1,143
Malta,	6		356
Yokohama,	5		304
Genoa,	2	10	143
Rotterdam,		16	48

Salt—

Adjuah,		12½ c.		
Akassa,	362 t.	10		
Antwerp,	50			
Black River,	5			
B. Ayres,	16	1		
Conakry,	30	6		
E. London,	8	18		
Ghent,	130			
Gothenburg,	100			
Gr. Bassa,	29	11		
Halifax	25	13		
Hamburg,	125			
Landana,	41	3		
Monrovia,	34			
M. Video,	2	2		
Old Calabar,	27			
Opobo	100			
Rio del Rey, W.C.A.,	30 t.			
Rotterdam,	124 t.			
Salt Pond,	12	10 c.		
Warri,	4	1		
Wellington, N.Z.,	60			
Aarhuus,	751			
Accra,	5			
Akassa,	310	15		
Antigua,	2	12		
Brisbane,	200			
Calcutta,	317			
Cameroons,	8	7		
Canada	90			
C. C. Castle,	33	10		
Cedar Rapids,	100			
Copenhagen	700			
Frederica,	1,000			
Lagos,	100			
Malta,	5			
Manaos,	10			
Manoh,	3			
N. Orleans,	1			
Sierra Leone,	300			
Trinidad,	28	10		
Valparaiso,	1	1		

Saltcake—

Baltimore,	244 t.	15 c.		£354

Saltpetre—

Carthagena, N G.,	2 t.	3 c.	1 q.	£44
St. John, N.B.,		6		7

Sheep Dip—

Pt. Natal,	110 dms			£25
Rosario	2 t.	6 c.		58
B. Ayres,	17			400
Canada,	1	18		33

Soap—

Accra,	120 bxs.			
Alexandria,	5	1 cs.	5 cks.	
Algoa Bay,	2,851	70	20 pkgs.	
Alligator Pond,	40			
Axim,	20			
Barbadoes,	500			
Batavia,	2,000			
Bereby,	40			
Callao,	31			
C. C. Castle,		24		
Capetown	3,210			
E. London,	574	15		
Gibraltar,	320			
Hong Kong,		2		
New York,	190	77		
Old Calabar,	350	8		
Panama,		2		
Penang,	200			
Pt. Natal,	1,588	30		
Rio del Rey, W.C.A.,	112 bxs.			
St. Nazaire,	120 crts			
Shanghai,	1,100 bxs.			
Singapore,	1,138	10 cs.		
Trinidad,	750			
Vera Cruz,	1 bl.			
Arica,		1		
Bale,		240		
Bermuda,	100			
Boca,	100			
Bombay,	16			
Calcutta,		9	250 brls.	
Cameroons,	30			
Cape Palmas,	25			
Cartagena N.G.,		10		
Colombo,		31		
Curacao,	318			
Durban,	100			
Genoa,	121			
Iquique,	36			
Malta,		80		
Mauritius,	2,000			
Rangoon,		2		
St. Thomas,		100		
Sierra Leone,	325			
Toronto,		4		

Soda Alkali—

London, Ont.,	26 brls.			
Wellington, N.Z.,	20			
Dunedin,	40			

Soda Ash—

Antwerp,	20 cks.	100 bgs.		
Baltimore,	54	4,340	188 tcs.	
Bombay,	10			
Boston,	11	880	224	
B. Ayres,				125 b
Canada,	54	200		
Candia,				124
Havana,	3			
New York,	47	4,480		
Philadelphia,	405	2,440		384 t
Rio de Janeiro,	52			120 b
Rosario,	10			
Santander,	44			
Smyrna		170		
Sydney,	165			
Bahia.	5			
Boston,		400		28 t
Constantinople,		100		
Genoa,	40	200		
Hamburg,				10 b
Havre,		200		
Hiogo,	15			
M. Video,				50
Oporto,	13			
Rotterdam,		100		
Salonica,				120
San Francisco,				10 t

Soda Crystals—

Boston,	168 brls.			
B. Ayres,	50			
Calcutta,			34 bgs.	
Galatz,	10			
Gibraltar,	10			
Malta,	14	50 cks.		
New York,	56	190		
Valparaiso,		100		

Sodium Arseniate—

New York,	25 cks.			
Rouen,	4 brls.			

Sodium Biborate—

Havre,	90 cs.	8 brls		
Ingersoll, Ont.,		20		

Sodium Bicarbonate—

Algoa Bay,	25 kgs.			
Antwerp,	176	2 cks.		
Barcelona,	335			
Bombay,	205			
Boston,	100			
Calcutta,	600	7		
Cape Town,	20			
Christchurch,	20			
Copenhagen,	163	32		
Dunkirk,	30			
Gijon,	10			
Hamburg,	15	1		
Havre,	308	8		
Kolding	15	1		
Kurrachee,	250			
Lyttelton,	47			
Malaga,	30			
Malta.		10		
Ottawa,	50			
Rangoon,	50			
Rostock,		3		
Rotterdam,	148	3		
Rouen,	15			
San Francisco,		40		
Santander.				70 brls.
Vera Cruz,	20			
Yokohama,	750			
B. Ayres,	25	50		
Constantinople,	80			
Galatz,			1	
Ibrail,		10		
M. Video,	50			
Nantes,		50		
Naples,	23			
Oporto,	20			
Singapore,	17			
Trinidad,				

Sodium Bisulphate—

Barcelona,	5 cks.			

Sodium Chlorate—

Leghorn,	1 ck.			
Hamburg,	40 kgs			

Sodium Nitrate—

N. York,	2 cks.			

Sodium Silicate—

Bombay	5 br			
Pasages,	50			
Seville,	100			
Corfu,	32 cks.			
Hiogo,	64			
Kingston Jam.,	4			
Malaga,	16			
Oporto,	10			

Sulphur—

Callao,	2 t.		2 q.	£1
Carthagena, NG.,		12 c.	3	
Jeddah,	3			
Boston,	330			1,175
Philadelphia,	4			118

Sulphuric Acid—

Corral,	2 t.	8 c.	1	£
Alexandretta,		15		

Superphosphate—

Nantes,	20 t.	2 c		£38
Valencia,	21			50
Gd. Canary,	4	10		2

Turpentine—
Bremerhaven, 5 brls.
Manila, 30 dms. £13
Rotterdam, 7
Varnish—
Bombay, 10 dms.
B. Ayres 5 cs.
Montreal, 14 4 cks
Puerto Cabello, 1
Barcelona, 1
Cadiz, 8
White Lead—
Hamburg, 10 kgs.
Old Calabar, 10 cks.

MANCHESTER.

Week ending March 7th.

Alkali—
Rouen, 5 cks.
Chemicals (*otherwise undescribed*)
Rotterdam, 10 cks.
Colours—
Rotterdam, 1 cs.
Extracts—
Rotterdam, 3 cks.
Paraffin Wax—
Hamburg, 3 cs.
Potash Salts—
Rotterdam, 4 cks.
Tar Oil—
Antwerp, 10 tins 1 ck. 6 dms.
Rotterdam, 2

HULL.

Week ending March 31d.

Alkali—
Stettin, 20 cks.
Ammonium Sulphate—
Antwerp, 911 bgs.
Bordeaux, 95
Dunkirk, 89
Ghent, 1,311
Hamburg, 826
Benzol—
Dunkirk, 48 cks.
Rotterdam, 49
Borax—
Gothenburg, 2 cks.
Caustic Soda—
Danzig, 70 dms.
Uerdingen, 37
Chemicals (*otherwise undescribed*)
Antwerp, 31 cs.
Amsterdam 16 pkgs.
Alexandria, 12
Bordeaux, 4
Bremen, 1
Christiania, 5 1 ck.
Danzig, 2 dms. 11 177 pks.
Gothenburg 51 16 205 pkgs
Hango, 6
Hamburg, 110 1
Malta, 1
Rotterdam, 20 36 200
Cottonseed Oil—
Antwerp, 369 c.
Amsterdam, 11
Alexandria, 21
Cologne, 880
Duisberg, 200
Dusseldorf, 101
Hamburg, 1,164
Rotterdam, 761
Stettin, 400
Uerdingen, 402
Dyestuffs (*otherwise undescribed*)
Danzig. 21 cks. 1 cs.
Hamburg, 5
Rotterdam, 5 bls.
Stettin, 1
Guano—
Dunkirk, 667 bls.
Hamburg, 202
Linseed Oil—
Bergen, 217 c.
Christiania, 164
Cologne, 127
Christiansund, 35
Drontheim, 191
Hango, 119
Hamburg, 21
Malta, 2
Rotterdam, 56
Mineral White—
Harlingen, 200 bls.
Ochre—
Amsterdam, 7 cks.
Hamburg, 15
Paint—
Antwerp. 2 cks.
Alexandria, 40
Painters' Colours—
Antwerp, 33 cks. 2 cs.
Amsterdam, 29
Bordeaux, 3
Christiansund, 76 kgs.
Dunkirk, 9 1
Drontheim, 2
Danzig, 1 pkge.
Ghent 6 1
Gothenburg, 1
Hamburg, 4 1
Malta, 9 1 20 dms.
Rotterdam, 11 1 6
Rouen, 31 2
Stettin, 6
Pitch—
Antwerp, 386 t.
Christiania, 20 cks.
Tar—
Antwerp, 9 cks.
Amsterdam, 5
Christiania, 11
Drontheim, 6
Turpentine—
Alexandria, 2 cks.
Varnish—
Antwerp, 4 cks. 3 cs.
Amsterdam, 2 1
Ghent, 3 4
Hango, 1
Malta, 3
Rotterdam, 3

GLASGOW.

Week ending March 8th.

Acids—
Rangoon, £54
Alumina Sulphate—
Melbourne, 8 t. 8 c. £30
Ammonia—
Bombay, 1 t. 11 c. £35
Ammonium Sulphate—
Demerara, 322 t. 7¼ c. £4,073
Mauritius, 232 6½ 3,109
Anthracene—
Rotterdam, 15 t. £580
Bleaching Powder—
Calcutta, 25 t. 1 c. £350
Melbourne, 28 ¾ 253
Borax—
Cape Colony, 4 t. 4 c. £122
Castor Oil—
Adelaide, 228 glns. £68
Caustic Soda—
Bombay, 2 t. 15¾ c. £75
Adelaide, 5 6¼ 47
Chloride of Lime—
Hong Kong, 1 t. 5 c. £24
Coal Products—
Pitch
Odessa, 62 t. 3 c. £105
Amsterdam, 274 383
Valparaiso, 279 9 375
Tar
Penang, 22 t. 5 c. £45
Rangoon, £20. 10s.
Odessa, 68 9½ 116
Bombay, 211 18s.
Coal Tar Products (*otherwise undescribed*)—
Rotterdam, 60 pns. £420
Copperas—
Bombay, 17 t. £30
Cottonseed Oil—
Hungary, 4 t. 2½ c. £89
Dyestuffs—
Extracts
Melbourne, 1 t. 9 c £73
Indigo
Melbourne, 1 t 19 c £77
Glucose—
Bombay, 100 t. £120
Cape Colony, 12 8¾ c. 190
Guano—
Antigua, 10 t. 1 c. £120
Lead Acetate—
Bombay, 4 t. 13½ c. £71
Linseed Oil—
Penang, 1 t. 4½ c. £33
Shanghai, 250 glns. £26. 15s.
W. Indies, 4 13½ £80
Peru, 4 18 109
Adelaide, 12 11½ 309
Melbourne, 1 5½ 33
Alexandria, 2 2½ 55
Valparaiso, 6 1¾ 157
Magnesium Sulphate—
Halifax, 15 t. 1 c. £41
Melbourne, 11 10¾ 48
Manure—
Antigua, 29 t. 2 c. £230. 10s.
Nitre Cake—
Melbourne. 17 t. £30
Paint—
Calcutta, 31 t. 18 c. £479
Rangoon, 3 14½ 54
Hungary, 1 14 35
Cape Colony, 7 9½ 134
Adelaide, 1 4½ 32
Melbourne, 2 8 21
Valparaiso. 56 18¾ 1,063
Painters' Colours—
W. Indies, 1 t. 5 c.
Calcutta, 6 112
Hong Kong, 7 11¼ 23
Mauritius, 2 4¾ 25
Paraffin Wax—
Constantinople, 13¾ c. £26
Odessa, 41 t. 4 960
Hungary. 20 11 463
Cape Colony, 6 14½ 212
Italy, 59 2¾ 1,436
Potash—
Italy, 334 t. 7 c. £410
Potassium Bichromate—
Philadelphia, 8 t. 8 c £334
Antwerp, 5 9½ 210
Rotterdam, 12 cks. 201
Amsterdam, 12 200
Italy, 26 t. 11 1,141
Melbourne, 15 41
Potassium Prussiate—
New York, 9 t. 1¾ c. £763
Rosin Oil—
Amsterdam, 20 brls. £40
Salt—
Penang, 3 t. 19 c. £60
Valparaiso, 4 3 40
Soap—
Bombay, 2 t. 5½ c. £35
Cape Colony, 1 6¾ 22
Antigua, 1 13 £34 11s
Soda Ash—
Philadelphia, 50 t. 13 c. £152
New York. 30 ½ 105
Sodium Bichromate—
Antwerp, 5 t. 1¾ c. £160
Italy, 21 ½ 672
Sulphuric Acid—
Rangoon, 43 t. 13 c. £259
Tallow—
Rotterdam, 6 t. 14 c. £200
Christiania, 7 2
Varnish—
Cape Colony, 11½ c. £21
White Lead—
Rangoon, 18½ c. £18
Amsterdam, 3 tins. 4
Zinc White—
Rangoon, 1 t. 17 c. £40

TYNE.

Week ending March 3rd.

Alkali—
Reval, 2 t. 19 c.
Hamburg, 1 9
Christiania, 52 13
Rotterdam, 1 2
Ammonia Alkali—
Aalborg, 20 t.
Ammonium Chloride—
Odessa, 2 t. 2 c.
Ammonium Sulphate—
Valencia, 698 t.
Antimony—
Hamburg, 1 t.
Arsenic—
Gothenburg, 1 t. 2 c.
Libau, 5
Barytes—
Reval, 15 t. 1 c.
Antwerp, 3
Bleaching Powder—
Reval, 6 t. 19 c.
Antwerp, 12 9
Hamburg, 68 17
Odessa, 11 7
Odense, 3 12
Gothenburg, 18
Libau, 25 17
Rotterdam, 49 13
Bergen, 10 3
Bone Ash—
Spezzia, 5 t. 11 c.
Calcined Magnesia—
Leghorn, 17 c.
Antwerp, 5
Caustic Soda—
Antwerp, 20 t. 10 c.
Odessa, 77 12
Gothenburg, 12 11
Romny, 10 8
Genoa, 12
Lime Sulphate—
Leghorn, 2 t. 7 c.
Litharge—
Antwerp, 11 c.
Hamburg, 1 t. 7 c.
Copenhagen, 1 19
Magnesia—
Hamburg, 14 c.
Odessa, 1 t.
Paint—
Genoa, 4 t. 10 c.
Potassium Chlorate—
Genoa, 2 t. 10 c.
Soda—
Antwerp, 5 t. 10 c.
Randers, 18 17
Christiania, 9 15
Laurvig, 5
Gothenburg, 5 2
Rotterdam, 32 3
Bergen, 7 2
Jersey, 49 9
Drontheim, 2 14
Soda Ash—
Odessa, 20 t. 2 c.
Odense, 3 8
Sodium Hyposulphite—
Odense, 2 t. 5 c.
Sulphur—
Christiania, 50 t.
Superphosphate—
La Rochelle, 1,250 t. 3 c.
Helsingborg, 300
Tallow—
Hamburg, 3 t. 5 c.
White Lead—
Odessa, 11 t 14 c.
Copenhagen, 5

GOOLE.

Week ending February 28th.

Alkali—
Dunkirk, 30 dms.
Chemicals (*otherwise undescribed*)
Antwerp, 8 cks. 12 pkgs.
Boulogne, 18 1 cs.
Ghent, 4
Rotterdam, 49
Calais, 8
Coal Products (*otherwise undes.*)—
Boulogne, 4 cks.
Rotterdam, 20
Hamburg, 9 3 cs.
Dyestuffs (*otherwise undescribed*)
Boulogne, 1 cs.
Ghent, 10 cks.
Manure—
Boulogne, 92 bgs.
Bruges, 501
Dunkirk, 200
Pitch—
Antwerp, 618 t.

GRIMSBY.

Week ending March 3rd.

Chemicals (*otherwise undescribed*)
Bombay, 132 cks. 28 dms.
Hamburg, 6 btls.
Coal Products (*otherwise undes.*)
Dieppe, 57 cks. 1 cs 83 brls.
Salt—
Antwerp, 308 t.

PRICES CURRENT.

WEDNESDAY, March 14th, 1894.

Prepared by Messrs. Higginbottom and Co., 116, Portland Street, Manchester.

The values stated are F.O.R. at maker's works, or at usual ports of shipment in U.K. The price in different localities may vary.

	£	s.	d.
Acids:—			
Acetic, 25 % and 40 % .. ..per cwt.	6/9 & 10/9		
,, Glacial .. .. ,,	50/-		
Arsenic S.G., 2000° .. .. ,,	0	14	6
Fluoric .. .. per lb.	0	0	3¾
Muriatic (Tower Salts), 30° Tw. .. .. ..per bottle	0	0	10
,, (Cylinder), 30° Tw. .. .. ,,	0	3	0
Nitric 80° Tw. .. .. per lb.	0	0	1¾
Nitrous .. .. ,,	0	0	1¾
Oxalic .. .. nett ,,	0	0	3¾
Phosphoric, 1750° .. .. ,,	0	1	2½
Picric .. .. ,,	0	1	0
Sulphuric (fuming 50 %) .. .. per ton	15	10	0
,, (monohydrate) .. .. ,,	5	10	0
,, (Pyrites, 168°) .. .. ,,	3	0	0
,, ,, 150° .. .. ,,	1	5	0
,, (free from arsenic, 145°) .. .. .. ,,	1	6	0
Sulphurous (solution) S.G. 1025 .. .. .. ,,	3	0	0
Tannic (pure) .. .. per lb.	0	1	1
Tartaric .. .. ,,	0	0	11
Arsenic, white powdered .. .. nett per ton	14	0	0
Alum (loose lump) .. .. ,,	5	2	6
Alumina Sulphate (pure) .. .. ,,	5	0	0
Aluminoferric .. .. ,,	2	10	0
Aluminium .. .. per lb.	0	3	0
Ammonia, Anhydrous .. .. ,,	0	1	3
,, ·880=28° .. .. per lb.	0	0	3
,, =24° .. .. ,,	0	0	2¼
,, Carbonate .. .. nett ,,	0	0	3¾
,, Muriate .. .. per ton	25	10	0
,, ,, (sal-ammoniac) 1st & 2nd .. per cwt.	39/- & 37/-		
,, Nitrate .. .. per ton	44	0	0
,, Phosphate .. .. per lb.	0	0	10½
,, Sulphate (grey) London .. .. .. per ton	14	1	3
,, ,, (grey) Hull .. .. ,,	14	0	0
Aniline Oil (pure) .. .. per lb.	0	0	5¾
Aniline Salt ,, ... ,,	0	0	5½
Antimony .. .. per ton	45	10	0
,, (tartar emetic) .. .. per lb.	0	0	10
,, (golden sulphide) .. .. ,,	0	0	10
Barium Chloride .. .. per ton	6	10	0
,, Carbonate (native) .. .. ,,	3	10	0
,, Sulphate (native levigated) .. .. .. ,,	45/- to 75/-		
Bleaching Powder, 35 % .. .. nett ,,	7	10	0
,, Liquor, 7 % .. .. ,,	3	10	0
Bisulphide of Carbon .. .. ,,	11	15	0
Chromium Acetate (crystal) .. .. per lb.	0	0	6
Calcium Chloride .. .. per ton	2	5	0
China Clay (at Runcorn) in bulk .. .. .. ,,	17/6 to 30/-		
Coal Tar Products and Dyes:—			
Alizarine (artificial) 20 % .. .. .. net per lb.	0	0	8
Magenta .. .. ,,	0	3	9
Anthracene, 30 % A, f.o.b. London .. per unit per cwt.	0	1	1
Benzol, 90 % nominal .. .. .. per gallon	0	1	3
,, 50/90 ,, ... ,,	0	1	4½
Carbolic Acid (crystallised 40°) .. .. .. per lb.	0	0	6¼
,, (crude 60°) .. .. per gallon	0	1	7½
Creosote (ordinary) .. .. ,,	0	0	2½
,, (filtered for Lucigen light) .. .. ,,	0	0	3
Crude Naphtha 30 % @ 120° C. .. .. .. ,,	0	0	6¾
Grease Oils, 22° Tw. .. .. per ton	2	5	0
Pitch, f.o.b. Liverpool or Garston .. .. .. ,,	1	7	0
Solvent Naphtha, 90 % at 160° .. .. .. per gallon	0	1	2½
"Lucigen" and "Wells Oils .. .. ,,	0	0	2½
Copper .. .. per ton	41	2	6
,, Sulphate .. .. ,,	15	10	0
,, Oxide (copper scales) .. .. ,,	40	0	0
Glycerine (crude) .. .. ,,	15	0	0
,, (distilled S.G. 1250°) .. .. ,,	44	0	0
Iodine .. .. nett, per oz.	0	0	9
Iron Sulphate (copperas) .. .. per ton	1	7	6
,, Sulphide (antimony slag) .. .. ,,	2	0	0
Lead (sheet) for cash .. .. ,,	10	10	0
,, Litharge Flake (ex ship) .. .. ,,	13	0	0
,, Acetate (white ,,) .. .. ,,	25	15	0
,, ,, brown ,,) .. .. .. ,,	16	10	0
,, Carbonate (white lead) pure .. .. .. ,,	20	0	0
,, Nitrate .. .. ,,	20	0	0
Lime, Acetate (brown) .. .. per ton	6	7	6
,, ,, (grey) .. .. ,,	10	5	0
Magnesium (ribbon and wire) .. .. per oz.	0	2	3
,, Chloride (ex ship) .. .. per ton	2	10	0
,, Carbonate .. .. per cwt.	1	17	6
,, Hydrate .. .. per ton.	17	0	0
,, Sulphate (Epsom Salts) .. .. .. per ton	3	0	0
Manganese, Sulphate .. .. ,,	17	15	0
,, Borate .. .. per cwt.	2	12	6
,, Ore, 70 % .. .. per ton	4	5	0
Methylated Spirit, 61° O.P. .. .. per gallon	0	2	2
Naphtha (Wood), Solvent .. .. ,,	0	3	9
,, ,, Miscible, 60° O.P .. .. .. ,,	0	5	0
Oils:—			
Cotton-seed .. .. per ton	21	10	0
Linseed .. .. ,,	21	0	0
Petroleum, Russian .. .. per gallon	0	0	3¾
,, American .. .. ,,	0	0	5¼
Phosphorus (yellow) .. .. per lb.	0	2	2
,, (red) .. .. ,,	0	2	9
Potassium (metal) .. .. per oz.	0	3	7
,, Bichromate .. ..nett per lb.	0	0	4½
,, Carbonate, 90% (ex ship) .. .. .. per ton	16	15	0
,, Chlorate .. .. per lb.	0	0	7½
,, Cyanide, 98% .. .. ,,	0	2	0
,, Hydrate (Caustic Potash) 80/85 % .. per ton	21	15	0
,, ,, (Caustic Potash) 75/80 % .. ,,	20	10	0
,, ,, (Caustic Potash) 70/75 % .. ,,	20	0	0
,, Nitrate (refined) .. .. per cwt.	1	2	6
,, Permanganate .. .. per cwt.	3	2	6
,, Prussiate Yellow .. .. per lb.	0	0	10¾
,, Sulphate, 90 % (ex ship) .. .. .. per ton	9	15	0
,, Muriate, 80 % (do.) .. .. .. ,,	8	5	0
Silver (metal) .. .. per oz.	0	2	3 5/16
,, Nitrate .. .. ,,	0	2	10
Sodium (metal) .. .. per lb.	0	3	4
,, Carb. (refined Soda-ash) 48 % ..nett per ton	4	17	6
,, ,, (Caustic Soda-ash) 48 % . ,, ,, F.O.B.	4	2	6
,, ,, (Carb. Soda-ash) 48% .. .. ,, ,,	4	0	0
,, ,, (Alkali) 58 % .. .. .. ,, ,,	3	10	0
,, ,, (Soda Crystals) .. .. .. ,, ,,	2	17	6
,, Acetate (ex-ship) .. .. ,,	14	15	0
,, Arseniate, 45 % .. .. ,,	11	0	0
,, Chlorate .. .. per lb.	0	0	8¾
,, Borate (Borax) .. .. net, per ton.	28	0	0
,, Bichromate .. .. ,, per lb.	0	0	3¾
,, Hydrate (77 % Caustic Soda) (f.o.b.) net pr. ton	10	10	0
,, ,, (74 % Caustic Soda) ,, ,, ,,	10	5	0
,, ,, (70 % Caustic Soda) ,, ,, ,,	9	5	0
,, ,, (60 % Caustic Soda) .. ,, ,,	8	5	0
,, ,, (60 % Caustic Soda, cream) (f.o.b.) ,,	8	0	0
,, Bicarbonate .. .. ,,	6	12	6
,, Hyposulphite .. .. ,,	5	12	6
,, Manganate, 30% .. .. ,,	16	0	0
,, Nitrate (95 %) ex-ship Liverpool .. .. per cwt.	0	9	4½
,, Nitrite, 98 % .. .. per ton	29	10	0
,, Phosphate .. .. ,,	15	0	0
,, Silicate (glass) .. .. per ton	5	7	6
,, ,, (liquid, 100° Tw.) .. .. .. ,,	4	5	0
,, Stannate, 40 % .. .. per cwt.	3	0	0
,, Sulphate (Salt-cake) .. .. per ton.	0	17	6
,, ,, (Glauber's Salts) .. .. ,,	1	5	0
,, Sulphide .. .. ,,	8	10	0
,, Sulphite .. .. ,,	5	15	0
Strontium Hydrate, 100% .. .. ,,	8	10	0
Sulphocyanide Ammonium, 95 % .. .. per lb.	0	0	7½
,, Barium, 95 % .. .. ,,	0	0	5
,, Potassium .. .. ,,	0	0	7¼
Sulphur (Flowers) .. .. per ton.	7	12	6
,, (Roll Brimstone) .. .. ,,	5	15	0
,, Brimstone: Best Quality .. .. .. ,,	4	0	0
Superphosphate of Lime (26%) .. .. ,,	2	7	6
Tallow .. .. ,,	28	0	0
Tin (English Ingots) .. .. ,,	73	0	0
Tin Crystals .. .. per lb.	0	0	6¼
Zinc (Spelter) .. .. per ton	15	15	0
,, Chloride (solution, 96° Tw.) .. .. .. ,,	5	10	0

nected with chemical works. When the case of the chemical worker has been stated in such harrowing terms as were set forth in a letter sent to Mr. Gladstone in 1889, and which was supposed to be the original composition of a chemical labourer, it is only fair to the chemical trade that some of the attempts to ameliorate the hardships of this class should be likewise duly voiced as occasion presents itself.

The past year has been a trying one for large as well as small concerns, and in cases where dividends have been at stake it would not have been very strange if masters had adopted the saying *sauve qui peut* as their motto. Under such circumstances it is a noteworthy fact that the largest employers of chemical labour, to wit the United Alkali Company, have taken just the opposite course. Apart from adopting the easier shift of eight hours so far as the restrictions of foreign competition will allow, they have actually kept together the body and soul of some of the operatives during their enforced idleness while the coal strike was on, and helped many a lame dog over the stile by running their works a few days a week, and even making loans, which are being repaid as things improve. Nor are the improved conditions of labour confined to the works of this company. In other branches of the trade the system of shorter hours is being tried, while those who have had such systems in operation for some years, show results sufficiently favourable to encourage others to entertain the idea of following their example. So much for the master. The obligation now lies with the man, and yet, if a crisis were to occur next month, we should be very interested to know how many would discharge the obligation by giving greater credence to the dictates of sense and common justice, than the haranguings of interested agents, and labour organisers who cackle loudly over the egg they have in their nest, though it often turns out a wind-egg.

Parliamentary Jottings.

EXCESSIVE WATER IN BUTTER

In the House of Commons last week, Mr. Plunkett asked the President of the Board of Agriculture whether he would consider the advisability of appointing a departmental committee to inquire into the working of the Margarine Act, 1887, and the Sale of Food and Drugs Act, 1875, as it affected the manufacture and sale of butter, and whether, in view of the recent prosecutions at Manchester, the terms of reference to such committee should include the question of excessive water in butter.

Mr. H. Gardner: The case to which the hon. member refers has engaged my attention, and I have addressed a communication respecting it to the Local Government Board, within whose province the consideration of questions arising under the Sale of Foods and Drugs Act mainly rests. If it be the general desire of British producers that an inquiry such as the hon. member suggests should be instituted, I would certainly bring that desire to the notice of the Board of Trade and the Local Government Board, but I could not properly appoint a committee on the subject without the concurrence of those departments.

EXPLOSIONS IN COAL MINES.

After concluding the taking of evidence, the Commission on Mine Explosions from Coal Dust adjourned to make experiments These are now finished, and the Commission will immediately consider their report, which the Chairman hopes to present not later than the end of June.

Closing of a Patent Fuel Works.—The week's notice having expired, Messrs. Cory, Yeo and Co.'s Graigola Patent Fuel Works at Swansea have been closed, throwing out of employment 300 or 400 workmen.

Personal.—We are informed that Mr. Wm. Schroller, engineer and contractor, Durham, who has given special attention to the construction of Carvè coke ovens of the bye-product recovery type, has commenced private practice as a consulting engineer at 13, Old Elvet, Durham, and will advise upon, and carry out, schemes in the above specialities.

SOAPS FOR WOOL SCOURING.

By Dr. J. Lewkowitsch.

In the course of a paper read before the Society of Dyer Colourists, the author has given some interesting information cerning the soaps most useful for scouring goods. a summary of whi be found in the following brief abstract. The various fats an used in soap making are described, and their properties and peculi recounted. In considering the bye-products used in making scouring soaps, several products will be found. There is, for ins bone fat, a bye-product recovered in making animal char or powder for fertilizing purposes from bones. The fat may be extracted with benzene—when some peculiar disagreeable smel adhere to it, and also most persistently stick to the soap made fro or may be obtained by boiling with water, in which case it will b from this smell, and therefore altogether preferable, if bone fat be used. It will, therefore, be easily understood that the qual commercial bone fat varies considerably, some resembling tallow, again behaving like a very badly distilled oleine. In the category, though somewhat lower in the list, may be mentioned ki grease, ship fat, and carriers' grease, all of which are used in m scouring soaps for the trade.

There is one other important substance to be considered before ing the raw materials, viz, oleic acid. Oleic acid is a bye-p obtained in candle works; being fluid at the ordinary temperat is useless for the candle maker The enormous quantities of this stance which are recovered yearly are used (besides for lubri textile fibres) for soap making. Oleic acid being a free acid wh so easily saponifiable—*i e*, neutralised by caustic soda or potash- most suitable material for textile soaps, and will always be k used for that purpose. Being an acid, and being stronger than car acid, it will displace the carbonic acid from soda, and therefore easily be made into soap by simply boiling it up with sodium carb The oleine soaps – as they are called—are specially adapted for t soaps.

Resin soaps, silicate of soda and all filling materials are to be av in the preparation of scouring soaps.

The best soap for such purposes is undoubtedly a good olive oil but cost is an item which stands in the way of the use of this except for the best class of goods. A perfect soap however for s ing, milling and fulling would be any soap, that is neutral, free alkali, does not contain any unsaponified fat, free from resin, m oil and other unsaponifiable substances, and lastly, is devoid of and other filling material.

In scouring raw wool to remove the wool fat a strongly caustic soap v be most detrimental owing to the fact that wool is soluble in a mode dilute solution of NaHO, the solubility increasing as the temper of the wash water rises Many wool scourers use a very dilute sol of carbonate, and when applied to lower qualities of wool will be fectly useful and will do the work required, but for the very finest a neutral potash soap will always have to be used. At this junct might be mentioned that there are a good many secret po recommended for wool scouring. It is surprising to hear that wool scourers actually make a secret of their wool-scouring proces the "ingredients" they use. For the purposes of this paper author had asked one or two wool scourers to show him their scouring plant, but they flatly refused, fearing to betray "val secrets." It need hardly be added that such secret powders are par with the largely advertised patent medicines

Passing on to the scouring of the woven fabric, the quality of so be used at this stage would naturally depend upon the work it i quired to do. This is to eliminate the lubricant which has been in spinning, and which may be contained in the fabric to the ext about 10 per cent. If the lubricant used was olive oil, it will be to remove by scouring, but for the lower classes of woollen g some other lubricant, containing more or less mineral oil, or oxidisable oil may have been used, and this will require protr washing with a better class soap. For worsted, however, potash are almost invariably used. The reasons of the author, different to those profferred by Dr. Alder Wright in his "Oils, and Waxes," as to why soft soaps have to be used in lieu of soaps. In regard to milling soaps they should be good neutral free from any excess of alkali, or unsaponifiable or unsapo matter.

The author then went into the question of whether the trade duced soap suited to the requirements of the wool scourer, and sh that they undoubtedly were made and were to be had, thou number of bad soaps were offered to wool scourers. Lastly, atte was drawn to an important fact, not to be overlooked in the subse dyeing operation, and that was the trouble often caused by the f tion of lime soaps with the lime in the water used in dyeing. soap being very clammy and greasy, or in the form of hard according to the degree of saponification, would in either case be difficult to remove from the fibres and lead to stains on the cloth.

Reports of Companies.

HE UNITED ALKALI COMPANY, LIMITED.

hird annual general meeting of shareholders in the United ali Company, Limited, was held on Friday, the 16th instant, aw Association Rooms, Liverpool. Sir Charles Tennant, sident of the company, occupied the chair, and amongst those ere Mr. James Hawke Dennis, Colonel Gamble, C.B., and rook Gaskell (vice-presidents); Mr. John Brock (chairman of l of directors), Mr. James C. Stevenson, M.P. (vice-chair- r. Charles Wigg (vice-chairman), and a goodly number of and shareholders.

resident, in opening the proceedings, said that, as hon. of the company, the duty of taking the chair on that occa- lved upon him. That was a duty he had great pleasure in He must express his satisfaction at seeing so large an of shareholders present. When last he had the pleasure of g them the position of business both at home and abroad was sfactory, and they looked forward with confidence to the the year being at least as satisfactory as the results of the ious. He was sorry to say, however, that in that expectation been disappointed, owing to causes over which they them- d no control. Shortly after their meeting a great financial ke out in America. The crisis was severe; currency became as hardly to suffice for the ordinary wants of the community. t industries of America were almost paralysed, and many of works were shut up. But, in addition to that, a bank crisis t in Australia, and a great number of the banking institutions lonies were obliged to shut their doors temporarily, and to go process called reconstruction. Both those events had a very al influence both upon the prices they obtained for their but more especially upon the quantity of their products sold. port trade, in fact, was very much prejudiced, and, as they aware, upon their export trade depended very much the y of the company. However, there was another element that nto their affairs of a very disastrous kind, the recollection of s, he was sure, in the memories of all. He alluded to the al strike. That strike interfered most seriously with their nd left, he might almost say, very disastrous results upon the heet of the company. However, in spite of all those un- events, their directors had piloted the ship through the waves siderable success. They had had great difficulties to contend they had given the shareholders a dividend of 5 per cent. ordinary stock of the company, and he could not help think- surrounded as they had been by those sad circumstances, the as one upon which they had reason, on the whole, to late themselves. ("Hear, hear," and applause.)

rock, chairman of the directors, then rose for the purpose of he adoption of the report and statement of accounts and the s. He said: The first word to you to-day must be one of at we cannot prudently recommend to you the same rate of for the second half of 1893 that we gave you for the first half. r has been one of exceptional difficulty and anxiety. The months of 1892 and the early months of 1893 were indeed g, and I was able to say, and was justified in saying, when we ur annual meeting in March last, that our prospects for the e good. Had trade continued in the same state for the second ths we should have had little cause to complain, but, ately, it did not continue in that state. Demand fell off, prices droop, a monetary crisis of great severity prevailed in and in our chief foreign market—the United States of — and, most unfortunate of all, a coal strike of 16 uration took place, which deprived about 28 of our works of plies of fuel, and necessitated the total stoppage of some, and al stoppage of others. To enable us to work some portions of in these latter works, coal had to be brought long distances cost, but we deemed it desirable to incur this increased cost, keep our trade together, and partly to help our employees by them partial work to tide over this trying time. For these felt great sympathy; they were deprived of work from no their own. Many of them with large families dependent on fered severely, and we found it necessary, and thought it right, ment the two or three days' work a week which we were able hem by giving aid to the work of distributing food and firing hose most in need, and, in other cases, of loaning money, to be hen the recipients were in work again. (Hear, hear) I am ay that these loans are now being repaid swiftly and most bly. (Applause.) One gratifying feature of this sad business ot omit to mention. The employees in other districts, where s were not affected by the strike, spontaneously offered and e substantial sums for the relief of their fellow-employees in ire. In having done what we could to assist our men during these long and trying weeks of the strike, we feel sure we shall have the hearty approval of our shareholders. During the year we have continued to give attention to the alteration and improvement of various portions of our plant—which I named last year—with the view of cheapening production. Several sections of these alterations will, we hope, come into profitable working during the present year. The new ammonia soda works at Fleetwood were delayed in starting owing to the coal strike, but are at work now, and turning out a product with which we have every reason to be satisfied. They promise to manufacture very cheaply, and to prove a valuable addition to the company's property The salt property at Fleetwood has during the year been considerably developed, and our works for producing white salt extended. Our two northern saltworks have been fully employed throughout the year. The works and properties have been kept in thorough repair and efficiency, the cost of all renewals being charged against revenue. (Applause.) The stocks have, as usual, been carefully valued and well written down. We continue to keep a watchful eye on what is passing around us; invention is active, and while most of it is worthless, it has, nevertheless, to be examined, lest we should pass by something which would be of advantage to our company. Some of our shareholders have told us they are very much interested in the eight hours question. For their information, I may say that in some of our works we found the eight hours system had to some extent been adopted before they were taken over by this company. We have since continued it. We have for some time past been considering how and where we could further extend it with advantage, and without increasing the cost of production. (Hear, hear.) We are, and have been for some months past, trying it in departments where the processes are continuous and the work specially laborious, but labour is a large and very important item in the cost of production, and the state of trade will not permit of any increase in the cost of production. Competition against us is very active, not only in this country, but also with foreign manufacturers. We cannot, therefore, take any step which will place us at a disadvantage with our rivals. (Hear, hear.) Now, turning to the accounts, our debenture stock and share capital stand at the same amounts as last year. The £60,674. 17s. 8d. debenture interest for the half year ending December 31st last was paid on the 1st January this year, and therefore appears as a liability. The debts owing by the company amount to £284,622. 9s. 3d., or £46,340. 3s. 4d. less than last year. The reserve fund, by the addition of £379,144. 8s. from the profit of 1892, now stands at £569,354. 3s. as stated in the report presented last year. On the other side of the account, the freehold, leasehold, and other property and plant were as per last balance-sheet, £7,473,243. 18s. 7d.; additions during the year amount to £164,455. 16s. 3d., together £7,637,699. 14s. 10d. Deducting from this the sales of property and plant during the year amounting to £27,138. 18s. 6d., we have left £7,610,560. 16s. 4d., an increase of £137,316. 17s. 9d. Of this increase, the larger portion is chargeable to our new ammonia sodaworks, the development of our salt property, and the extension of our saltworks at Fleetwood. The stocks of manufactured products, raw materials, stores, &c., which have been carefully valued, stand at £846,830. 0s. 4d., or £138,557. 1s. 4d. less than last year, due mainly to a depletion of manufactured stock, owing to the enforced idleness of many of our works during the coal strike. The debts owing to the company amount, with the outstanding consignments, to £314,933. 3s. 4d., as against £376,794. 10s. 8d. last year. Our investments, which are mainly in Consols, stand at £455,176. 4s. 10d. Cash at our banker's, at our head and district offices, with bills receivable, amounts to £97,798. 14s. 10d. Looking now at the profit and loss account, you will see that the balance of profit brought forward from 1892 is £741,233. 1s. 6d. On the other side of the account we show how we have dealt with it. For the past year the gross profit has been £546,021. 18s. This is a considerable diminution on the previous year, due to some extent to the altered conditions of trade during the year, and especially the latter half of it, but largely to the coal dispute. Trade interest and interest on investments bring in £12,667. 18s. 11d., and transfer fees £438. 15s, making altogether £559,128. 11s. 11d. On the other side, the items of charge are much the same as last year. General and head office expenses are £2,876. 9s. 11d. more than last year, owing entirely to increased payment for income tax. The small amount of £510. 2s. for bad debts may be taken as evidence of the care with which our large business is conducted. (Applause.) The balance of profit left after deducting these charges is £496.895. 10s. 11d. Out of this we have paid debenture interest, £121,481. 4s. 10d., leaving a balance of £375,414. 6s. 1d., which we propose to deal with as follows:—Interim dividends already paid for the six months ending June 30, 1893: On the preference shares, £96,204. 0s. 5d.; on the ordinary shares, £84,450. 16s.—together, £180,654. 16s. 5d. Dividend payable on the 19th instant, for the six months ending December 31, 1893: Of 7s. per share on the preference shares, £95,998. 1s. 3d.; of 4s. per share on the ordinary shares, £56,180. 0s. 2d.—together, £152,178. 1s. 5d.; leaving a balance of £42,581. 8s. 3d, which is carried to reserve fund making the total reserve £611,935. 11s. 3d., of which £500,000

has been placed in the depreciation division of that account. (Applause.) As to the future, it must be obvious to all that the state of trade the world over is not brilliant, due very largely to the prostration of business in the United States, owing to uncertainty in regard to tariff and the currency questions. Our particular industry will improve or decline in sympathy with that of the world generally. We cannot be an exception. I hope another coal strike is a remote contingency; strikes are a way of settling labour disputes of doubtful advantage to anybody, and bring untold distress and suffering on thousands of innocent people; but when improvement in business does come—as come it must, sooner or later—we are ready to take full advantage of it. (Applause.)

Mr. E. K. Muspratt seconded.

Mr. Kershaw (a shareholder) expressed the opinion that the statement of the chairman with regard to the eight hours system had not been satisfactory. They all knew, he said, that the strength of opinion in the country was growing stronger every day, and if they were not prepared to grant the boon of an eight hours day to their men now voluntarily, it was almost certain that within a few years they would have to grant it compulsorily. (Cries of "Time," "No, no," and "Question.") He regretted that the meeting chose to burk the subject in that way.

The President said there was no intention to burk the question at all. The very best reason for his saying that was that they had already included it in their report in a very clear and distinct manner. They had said that where the principle might be adopted without prejudice to the interests of the shareholders they would adopt it. So far as they had gone, they had found that they could do it without prejudice to the shareholders. He thought it would be very much better for the shareholders to leave the matter in the hands of the board. ("Hear, hear," and applause.)

Mr. Kershaw intimated that, the opinion of the meeting being against dealing further with the matter, he would not pursue it. (Hear, hear.)

Mr. William Smith said he had found there was £164,455. 16s. 3d. for additions to the works during the past year. He would like to know how that capital had been placed, whether it was ordinary or preference shares, and how it had been disposed of?

Mr. Charles Thomas said, considering the disturbed state of trade all over the world, and especially in this country, he thought the accounts presented had been fairly satisfactory. Like all other large companies, they had had to suffer from large depreciation in their revenue. The explanation given by the chairman was satisfactory to the shareholders. (Hear, hear.) There was one point he would like to hear a little more upon, viz., a new company which had been heard of. He had not seen the prospectus of it, but there was a company, he believed, either started or about to be started, for a revolutionary process in the manufacture of alkali products. (Laughter.) He was glad to see that some of the gentlemen present laughed at that. A great many of the shareholders were very anxious to know what the effect of that new process would be upon the United Alkali Company. He thought that if the chairman would give them a little comfort on that point, it would be very satisfactory to the shareholders. (Hear, hear.)

Mr. Stone asked what was the extra cost of the coal strike.

The President said he was afraid that was a very difficult question to answer. It would run into six figures at all events, and he thought that was about as near as they ought to require him to state. They could really not tell definitely how much it had cost, but they might be perfectly sure it was a very large sum.

A Shareholder remarked that he thought it had been said that all depreciation had been allowed for, which meant, he presumed, taken off the profits before they were declared. If he understood the matter aright, £500,000. had now been set aside out of that £611.000. for depreciation. If that were so, their account would only stand at £111,000., and instead of making any profit they had made none whatever. (Laughter.)

The President said that by placing the £500,000 to that portion of the reserve he considered the directors had acted wisely; it was safeguarding, he thought, in a very handsome manner the property of the company. (Hear, hear.) As to the new process—the electrolytic process—to which reference had been made, there was, he might say, an allusion to it in Mr. Brock's interesting speech, when that gentleman said he was keeping a watchful eye on new processes, some of which were very worthless. He (the President) did not know that the electrolytic process was worthless, but there was no doubt that some processes had been entire failures. Possibly some day electricity might replace chemistry, but so far, at all events, they had no authority at all for thinking so. He did not think the shareholders need make themselves unhappy about the new company. "Sufficient for the day was the evil thereof." (Laughter and applause.)

Mr. Brock said some gentleman had asked about the item of £164,455. 16s. 3d. for additions. They did not get it by issuing any fresh shares, but by taking it from the funds of the company. The money had been invested for the benefit of the whole of holders of the company, and not for any particular section o

The motion was then put to the meeting and unanimously

Mr. Stevenson, M.P., proposed the re-election of the directors:—Messrs. Thomas Alexander, J. C. Gamble Gamble, W. J. Menzies, John A. E. Rayner, and Lieutena T. B. Gaskell.

Mr. J. Melland seconded, and the proposition was agreed

The auditors of the company were reappointed on the mot William Smith, seconded by Mr. Braddock.

The President next moved a vote of thanks to the cha directors for their able and industrious conduct of the affa company. The interests of the shareholders were, he said, in of very competent men.

Mr. Holbrook Gaskell, in seconding, said he occupied position as their president, who told them on the last occasi sided over the meeting of shareholders that he was pec repesentative of the shareholders—that was to say, he was n ing member of the Board. He (the speaker) had also the ho one of the great unpaid. (Laughter and applause.) H included in the resolution he had the pleasure of seconding. cipal function of the president and himself (Mr. Holbrook G the other vice-presidents was to keep an eye upon the work other gentlemen. They had done so, and he could testify t chairman (Mr. Brock) they had a gentleman well qualified over the business of that important company, and who atte closely to the duties, and to the interests of the company. (Mr. Brock was *ex-officio* a member of all the committees of t was in touch with every department, and he did not think possibly find a more efficient chairman. (Applause) M allowed to pay the same tribute to his working colleagues? sidered that company stood in a most fortunate position, inas had a Board of Directors who not only held a very large st company, but who, likewise, were thoroughly familiar, both ally and practically, with the management of the business. all been engaged in the business for a great number of years them, such as their president and Mr. Muspratt, were the d of those who founded the business a century ago. They fortunate in having a body of directors possessing such full of the business they had to conduct. He hoped as time we some of them disappeared, that the shareholders of the comp always be anxious to fill up vacancies as far as they could directors who both had a stake in the company and a thoroug knowledge of the business. (Applause)

The vote of thanks was warmly accorded.

Mr. Brock, in reply, said he esteemed it a greater ho chairman of that company, and a still greater honour to be with a body of colleagues like those he had. If a large scie ness of that character had to be conducted successfully, it we saying that they must have men conducting its affairs who understood them. Such was the happy position of the share that company. (Applause) The Board of Directors wo give their best services to the welfare of that great (Applause.) He concluded by moving a cordial vote of than staff. He said no company was favoured with a better staf United Alakali Company. (Applause.)

Mr. E. K. Muspratt had very much pleasure in seconding of thanks to the staff. It would be invidious, he observed, select any one of their staff for special mention, but still he w the permission of the meeting, do so. He would select Mr. their secretary, for the receipt of the particular thanks of the (Applause.) He thought everyone who had met Mr. Carey tion with the business of the company would certify that that was courtesy itself. They who knew his private work were how eminently fitted he was for the work of secretary of that pany. He was thoroughly familiar with the manufacture, and al business of the company. As Mr. Gaskell had said of m directors, he had been brought up to the business. He un thoroughly, and he was an indefatigable worker. As rega district managers, he must say every one of them had had ingly anxious time, and it was owing to a very great exte ability, and the manner in which they were able to manage they had come through it so well. In regard to the mat eight-hour day brought forward by Mr. Kershaw, he (th might say that gentleman seemed to be of opinion that th and the managers of the company had no sympathy with people; but he thought the action of the company took coal strike in the way in which they gave as much work as their men showed that they all had sympathy with them. Muspratt), for his own part, would say that he was as strong cate of the eight-hour system as Mr. Kershaw. But nat could not, in the face of the growing competition of their riv Continent and America, add to the cost of productio was the only reason they had not extended it furth

extended it to a considerable extent, and they in-ed to still further extend it in the future, providing it ıot add to the cost of the article. (Applause.) Another gentle- had alluded to the Electro Chemical Company that had been ed. The United Alkali Company had at the head of their ratory the most eminent technical chemist in the country, Dr. er, and every invention that touched upon the manufacture of i, bleaching powder or chlorine products in any way was ined by him, and generally it was brought before the directors. had examined a great number—he was afraid to say how many rical processes they had examined—but at present they had not ted any. If they had thought the processes would succeed, they d have adopted them. That very process for which the new com- had been brought out had been examined by them, and all he say was they had not taken it up. That would show them that ıy rate they did not fear it very much. That was really the er. They had a most competent staff in every department; they excellent district managers. All the staff deserved the most hearty ks of that meeting for the way in which they had conducted the ess during the past year. (Applause.)

ıe vote of thanks was passed with much cordiality.

r. Dennis proposed a vote of thanks to Sir Charles Tennant for ding.

r. Worsley seconded, and said the debt of the shareholders to their dent was very great.

ıe President, in acknowledgment, said he felt very much touched ıe way the vote of thanks had been proposed. He could not say he felt himself worthy of it; they had quite exaggerated his value e company. He was a very large shareholder, and had a deep est in its welfare. He was very proud of being the hon. president; monised the traditions which he valued of his own family, and it iated him with those who were the founders of that great chemical try in the country, and whose memory he venerated. He believed the company were in a very sound undertaking. They would ups and downs in their prosperity, but he believed their position very sound one. He believed the business of the company was acted by very competent men, and he believed it was one of those industries which must in the end yield a fair commercial return ose interested in it. He had no doubt that in the future as in the hey would receive a fair interest for the capital they had invested; he thought they must not expect from any industry of these days. Corporation was as well managed as any with which he had been ected, and he had been connected with a great many. lause.)

e proceedings then terminated.

IE NORTH BRITISH WATER-GAS SYNDICATE, LIMITED.

e petition for the compulsory winding-up o. this company, which course of voluntary liquidation (*vide C.T.J.* 354, p. 145), has dismissed.

Correspondence.

PULP BOILING LIQUORS, ETC.

(To the Editor of the Chemical Trade Journal.)

,—(1) Can you refer me to any journal or book containing an sis of the boiling liquors employed in paper mills that make their oda from salt-cake, and their boiling liquor consisting of a icised solution of black ash and recovered ash. What I require to is the quantity of sulphide, sulphate, and sulphite (if any) con- l in the liquor.

When a strong solution of caustic soda is mixed with raw starch, ımy like jelly is formed. Has any chemical action taken place, t simply a bursting of the starch granules? F. H.

rch 19th, 1894.

hould advise our correspondent to consult the back pages of the *rnal.* He will find an answer to his queries we are much lined to think.—Ed. *C. T. J.*]

E Customs Didn't Like It.—The first petroleum tank steamer rrived at Shanghai. The Customs officials, however, refuse to t the landing of petroleum in bulk. The British, Russian, and an consuls have been instructed to support the landing.

Paper Mill Destroyed.—Last Saturday morning Messrs. wood and Brindle's paper mill at Salmesbury, near Blackburn, liscovered to be in flames, and notwithstanding strenuous efforts ıg could be done to stay the progress of the fire, the mill being destroyed in an hour and a half. The damage will total to a arge amount.

Official Memoranda.

(From the Board of Trade Journal.)

RUSSIAN CONCESSIONS UNDER THE RUSSIAN-GERMAN COMMERCIAL TREATY.

THE following is an abstract of the reductions in rates which Russia proposes to concede to Germany under the new treaty. A pood= 36lb. avoir. A funt=0·902lbs. A rouble=about 3s. 2d.

Tariff Classification.	Proposed Rate.	Present Rate.
	Rbls. Cop.	Rbls. Cop.
Cement (all kinds)	Pood 0 ·08	Pood 0 ·09
Sulphate of Baryta (blanc fixe) and artificial carbonate of baryta	,, 0 ·08	,, 1 ·00
Soluble Chromates, *e.g.*, chromate of soda. Bi- and Mono-chromate of Potash	,, 2 ·15	,, 2 ·65
Tannic Acid	,, 5 ·00	,, 6 ·00
Blue Copperas (except anhydrous), Salzburg Copperas (mixture of $CuSO_4$ and $FeSO_4$), Sulphate and Chloride of Zinc	,, 0 ·80	,, 1 ·00
Tartar Emetic	,, 3 ·00	,, 4 ·00
Chemical and Pharm. Products not tariffed	,, gross 1 ·50	,, : ·80
Precipitated Chalk and Ground Talc and Chalk	Pood 0 ·12	,, 0 ·15
White Lead and Zinc White	,, 0 ·50	,, 0 ·60
Red Lead	,, 0 ·35	,, 0 ·40
Copper or Arsenic Colours (except verdigris)	,, 0 ·30	,, 0 ·40
Verdigris	,, 0 ·36	,, 0 ·40
Coal-tar Dyes	,, 14 ·00	,, 17 ·00
Tar, Pitch, and Resin (all kinds)	Free.	Free.

GERMAN INDUSTRY AND FOREIGN TRADE.

The Consul-General or the United States, in speaking of the industrial condition of Germany, states that:—

The Colour Industry is airly satisfactory, three of the largest companies paying good dividends. And yet all of these companies suffered more or less from the serious prostration of their American export trade during the third quarter of the past year, which is now rapidly recovering. It is well understood that in all the standard aniline dyes, the manufacture of which is open to general competition, prices have been reduced to very close margins during recent years; but the prosperity of that branch of business is well maintained by the large profits derived from special patented colours and medicinal preparations, of which each of the large German chemical firms owns a number that are patented in its own name in the United States, thus securing to the patentee a monopoly of its production and sale.

A notable example of this is antipyrine, which is manufactured exclusively under the Knorr patents by the Farbwerke at Hoechst. It is estimated that not less than 75 tons of this preparation are manufactured and sold annually, representing, according to one authority, a value of £290,400., the greater part of which is clear profit.

The Paper Industry is likewise, to all appearances, prosperous and profitable, although complaint is heard of low prices and the serious competition of Norway and Sweden in the manufacture of wood pulp. At Aschaffenburg, an important centre of the pulp and paper industries on the River Main, some miles above Frankfort, a number of the mills are working night and day, and one company is making important additions to its already extensive plant.

The Sugar Manufacture has been so prosperous that there is now a general movement towards the enlargement of existing factories and the erection of new ones. This is especially the case in Mecklenburg, where the *Tagblatt* has been recently moved to utter a note of warning against this dangerous expansion of producing capacity, in which it points out that the world's sugar product is already 10 per cent. in excess of normal consumption, and predicts that any further increase in the product will bring on a disastrous collapse in prices which will jeopardise the entire industry. However well or ill founded this warning may be, the present situation of the German sugar makers is generally satisfactory.

The following abstract of the import and export returns shows the ncrease or decrease as compared with 1892:—

Imports.	1893. Marks.		1892. Marks.
Drugs and Dyestuffs	243,445,000	..	235,433,000
Candles	131,000	..	96,000
Oils and Fatty Substances	158,775,000	..	175,060,000
Paper and Paper Wares	12,239,000	..	10,816,000
Petroleum	76,926,000	..	73,598,000
Soap and Perfumery	2,334,000	..	2,287,000
Tar, Pitch, Resin, and Asphalte	30,856,000	..	25,027,000
Exports.			
Drugs and Dyestuffs	277,588,000	..	262,041,000
Candles	799,000	..	800,000
Oils and Fatty Substances	30,615,000	..	23,548,000
Paper and Paper Wares	95,843,000	..	94,630,000
Petroleum	673,000	..	575,000
Soap and Perfumery	10,338,000	..	9,284,000
Tar, Pitch, Resin, and Asphalte	6,828,000	..	7,385,000

KEROSINE OIL TRADE OF SINGAPORE IN 1893.

A communication has been received at the Board of Trade from the Acting Colonial Secretary of Singapore, transmitting copy of a review of the kerosine oil trade in that colony for the year 1893.

From this review it appears that the total imports amounted to 626,115 cases, comprising the following: American, 212,150 cases; Russian, 113,965 cases, also in bulk (equal to) 141,000 cases; and Sumatra, 159,000 cases. The imports in 1892 reached 402,220 cases. The stocks of kerosine on the 31st December last amounted to 157,950 cases.

Imports of oil for the year 1893 exceed those of the previous year by upwards of 200,000 cases, there having been a well-maintained supply of American, and a marked increase of Sumatra. Russian shipments on the other hand have gradually fallen away, the imports of tank oil during the first half of the year having been sufficient while the course of prices has rendered business in Batoum case oil impossible at a profit for the present.

Consumption has followed corresponding lines to a satisfactory extent, and a feature worthy of note is the growing importance of the Sumatra oil. This was to be expected, for the quality of the oil is good, and the proximity of the oil fields to the consuming markets makes the expense of carriage trifling, and probably admits of sales at prices with which America and Batoum cannot compete. Other facilities help the sale of Sumatra oil, such as supplying it in tins only without the wooden case, and therefore at a reduced cost, and a rebate of duty is allowed on all shipments into the numerous Dutch outports round about. In this as in other articles of commerce, Singapore maintains its unrivalled position as a distributing centre. Prospecting in Sumatra has been going on during the year, and it is probable that in the course of 1894 other companies will have commenced operations. Russian tank oil consumption appears to run pretty steadily at equal to about 10,000 cases per month, and the company now supplies tins and cases when required. This oil in bulk does best when other oils are dear. As all are low-priced at present, it has no great pull, and probably is as unprofitable as American and Russian case imports are said to be.

INDIGO CULTIVATION IN THE PUNJAB.

It appears that an unusually large crop of indigo was obtained last year in the Punjab. The *Calcutta Englishman* states that the area cultivated is estimated at over 110,000 acres, an increase of 70 per cent. over the previous year, and the amount of dye obtained at 817,000 seers, an increase of about 60 per cent. Statistics of the Punjab indigo crop are available only for the past three years; and we have therefore no exact information concerning the normal out-turn. The area under indigo this year is unusually large, and the out-turn in dye is estimated at 15 annas.

BELGIAN REGULATIONS AGAINST BEER ADULTERATION.

Sir F. R. Plunkett, Her Majesty's Minister at Brussels, in a despatch to the Foreign Office, has sent a copy of a royal decree establishing new regulations for preventing the adulteration of beer, and for ensuring, as far as possible, that the beer should reach the consumer in good condition. The following is a translation of these regulations:—

Art. 1. It is strictly prohibited to use in the manufacture and preparation of beers products containing matters injurious to health, as also to sell, expose for sale, detain or transport for sale beers containing these matters, or beers otherwise adulterated.

For the application of the present regulations, such antiseptics as salicylic acid, sulphuric acid, or their saline preparations are considered as injurious to health. The presence of sulphuric acid is, however, permissible in beers when the proportion does not exceed 14 milligrammes per litre, probably originating in a careful disinfection of the casks.

Art. 2. Casks, bottles, or other receptacles, in which beers are contained for the wholesale trade, or in demijohns, must bear in distinct characters the name and description, as well as the address of the maker or merchant.

Every factory or trade-mark, regularly deposited, will be sufficient for the purposes of the above regulations.

Art. 3. Taps, pipes, pumps, carbonic acid apparatus, &c., used for the serving of the beer must be kept perfectly clean.

The air admitted to the beers in casks for sale must come from a place free from any cause of contamination and well ventilated, if possible, from outside the houses.

Art. 4. It is prohibited to sell, expose for sale, detain or transport for sale *stortbier*, collected in the shops at the bottoms of glasses or on the tables and counters, unless these liquids are denaturalised in such a way that they cannot be utilised as beer, nor serve for mixing with beers, nor be employed in the manufacture of vinegar.

Art. 5. Infractions of the preceding regulations will be met with the penalties provided in the law of the 4th August, 1890, without prejudice to the application of the penalties provided by the Penal Code.

DUTY ON SULPHATE OF POTASH AND SODA.

Mr. J. Michell, Her Majesty's Consul at St. Petersburg, states that, according to information supplied by Mr. C. J. Cooke, British Vice-Consul at Helsingfors, the Imperial Senate of Finland has established a duty of 1 mark 20 penni Finnish currency per 100 kilogrammes of sulphate of potash and soda (natrium sulphurit) imported into the Grand-Duchy.

THE MANGANESE INDUSTRY.

Manganese, which is used in the manufacture of steel, is found in an unlimited supply in the same mountain range of Cuba in which the iron ore is found, but between Santiago and Manzanillo, within a distance of 75 miles. American enterprise has asserted itself by capturing the richest and most available mines. These mines are now being connected with the seaboard by short-line railroads.

During 1892 there were shipped to the United States 18,851 tons of manganese, and during the past year the amount transported was 11,640 tons.

According to reliable information, immense quantities of manganese have been discovered in the Caucasus Mountains, between the Black and Caspian Seas, and European capitalists claim that they will be able to deliver manganese in Baltimore at $9 per ton. Cuban manganese has been delivered there the past year at an average cost of about $15 per ton. With the rich deposits of the Ponupo and other mines recently discovered here, the completion of railroad connections with the coast, and the addition of improved machinery now being put up, those interested in the Cuban mines confidently assert their ability to undersell the Europeans in the American markets. The decreased price of manganese will make available many Pennsylvania iron mines which it does not pay to work at present.

THE USE OF PETROLEUM AS A FUEL.

The use of petroleum as a substitute for coal has been taken up quite energetically in Detroit. Crude petroleum, which came into use as a fuel in that city about eight years ago is now much more extensively used than natural gas. It has displaced coal to a very large extent, but only finds its way into a very limited number of homes. It is principally used by factories for generating steam power; by iron and steel plants for forging these metals; in business blocks for steam heating purposes, and is used in about 90 factories, business blocks, and two brickyards, in which the aggregate consumption of this fuel is about 5,500 barrels per day.

This enormous consumption of a substitute for coal has materially affected the market of the latter fuel in this community, and this is shown in the retirement from business of a score of coal dealers during the past five years.

A hydraulic device has been invented, which feeds petroleum uniformly into furnaces, and also handles it, thereby saving much material and labour. The main feature of the invention is an air-tight tank, in which the oil is kept, and an arrangement by which water can be let into or drawn from the bottom of the tank. By letting water into the tank, the oil is forced to the top and thence through a pipe to the point where it is consumed.

The petroleum is also handled by being run from the railroad car tank through a hose into the ground tank until the latter is full, when the weight of the petroleum forces the water below it through a pipe in the bottom and the water then falls into the sewer.

en it is desired to load the petroleum from the ground tank into gon tank, the operation is the same as in feeding it into the e. Water is let into the bottom of the ground tank and this the petroleum up and through a hose at the top into the waggon

claimed that by feeding the oil into the furnace, by the hydraulic d described, a very important saving is effected, as by the nity of the feed the oil is entirely consumed, which is not the here it is fed by gravity alone.

THE POSSIBILITIES OF INDIAN CASTOR OIL.

comprehend the value of the castor plant, *Ricinus communis*, it necessary to look to the number of uses to which it is put. In he oil is extensively used as an illuminant, and there is none provided it is "cold drawn," and has been subjected to a proper refully conducted method of preparation; moreover, owing to its mbustion, a saving of ¼ to ½ is said to be effected by using it, pared with other oils. It forms an excellent lubricant, although purpose it has been to a great extent superseded by mineral oils. dressing of tanned hides and skins it has a high reputation, and ives employ it largely for preserving water buckets, agricultural ces, harness, &c., made of leather; and an estimable attribute il, in a climate like that of India, is that it repels rats and other . Country dyers utilise the oil in certain of their processes, as mple in colouring with *Al*. In Assam the plant is widely culti- s a food for the *eri* silkworm. It has been suggested that where p is largely grown in the vicinity of paper mills the stems might e profitably disposed of for paper-making (an excellent pulp is be made from the stems with their bark), than as now used for for thatching houses. The oilcake is largely consumed as fuel. constitutes a valuable manure. The cake is, or was not long sed by the East Indian Railway Company, at Allahabad, for king. In Jeypore, the palace, public offices, and streets are by gas produced from a cheap variety of castor oil grown for pose. The oil is further said to be capable of forming with copal, d in alcohol, an excellent varnish. The one great thing in India fails as regards this product is to turn out a good or narketable medicinal oil. In this she loses a very large trade; s estimated that could such an oil be produced in India and in the market precisely similar to that now imported from a profit of Rs. 10 per maund would be realised.

THE TYNE CHEMICAL TRADE.

following list has been specially abstracted from the yearly alysis made by the Tyne Improvement Commissioners of the mported and exported from the Tyne during 1893. As the nclude coastwise shipments, the coastwise total is given as well otal for the year, the difference being the amount of the foreign or exports as the case may be. The annual total for 1892 is n for the purpose of comparison.

IMPORTS

escription of Goods.		Total Coastwise.		Total 1893.		Total 1892.
.....	Tons	1,231	..	1,232	..	1,050
.....	,,	367	..	368	..	4,730
.....	,,	2,006	..	3,260	..	2,849
s	,,	..	..	..	..	123
e and Saltcake	,,	2,650	..	2,650	..	..
.....	,,	2,713	..	2,716	..	2,546
.....	,,	353	..	353	..	301
erated Chemicals	,,	926	..	1,704	..	1,309
.....	,,	100	..	861	..	578
rs' Stores	,,	4,993	..	5,599	..	5,006
and Cottonseed	,,	2,720	..	2,720	..	1,081
nd Linseed Cake	,,	483	..	1,794	..	1,519
and Colours	,,	1,044	..	1,455	..	988
.....	,,	419	..	598	..	280
....	,,	253	..	273	..	523
f Soda.....	,,	533	..	5,898	..	6,150
tes	,,	—	..	20,149	..	17,916
y Ore	,,	1,726	..	1,734	..	1,781
lphur Ore	,,	70,322	..	73,493	..	69,593
se and Manganese Ore..	,,	899	..	911	..	425
Ore	,,	218	..	69,530	..	73,174
f Paris and Whiting	,,	1,215	..	1,215	..	1,306
.....	,,	80,549	..	88,001	..	75,155
.....	,,	12,672	..	12,672	..	4,092
eral)	,,	4,923	..	18,406	..	18,137
er sorts)	,,	4,051	..	4,623	..	4,115
Tar and Pitch.....	,,	625	..	666	..	1,706
Paper	,,	2,214	..	3,170	..	2,623
Tanners' Bark	,,	527	...	1,588	..	1,525
Cutch	,,	3	..	3	..	5
Esparto Grass	,,	—	..	7,540	..	11,546
Resin	,,	67	..	1,605	..	3,623
Shumac	,,	172	..	172	..	273
Tar and Pitch (Veg.).....	brls.	390	..	6,453	..	6,436
Valonia	Tons	73	..	103	..	69
Wood Pulp	,,	147	..	1,836	..	1,809

EXPORTS.

Alkali and Soda Ash	Tons	1,197	..	11,704	..	10,588
Alum and Alum Cake.....	,,	2,353	..	2,770	..	3,529
Ammonia and Salammoniac	,,	11	..	2,614	..	2,232
Arsenic	,,	67	..	226	..	322
Barytes (carbonate & sulphate)...	,,	547	..	7,747	..	6,007
Sodium Bicarbonate	,,	19	..	34	..	26
Bleaching Powder	,,	12,483	..	33,246	..	28,725
Caustic Soda.....	,,	7,913	..	19,671	..	20,320
Copperas	,,	145	..	446	..	311
Epsom Salts.....	,,	—	..	5	..	83
Hyposulphite of Soda.....	,,	246	..	512	..	916
Magnesia	,,	131	..	378	..	316
Manganate of Soda.....	,,	5	..	5	..	108
Manure	,,	6,800	..	25,535	..	22,055
Sodium Nitrate.....	,,	644	..	681	..	286
Potash	,,	119	..	163	..	38
Pearl Hardening and Gypsum ..	,,	929	..	968	..	1,353
Soap	,,	241	..	277	..	273
Soda Crystals	,,	51,453	..	61,334	..	54,584
Sulphate of Soda	,,	1,100	..	7,417	..	4,563
Sulphur	,,	537	..	9,876	..	10,208
Silicate of Soda.....	,,	77	..	340	..	505
Unenumerated Chemicals	,,	121	..	756	..	725
Cement	,,	13,647	..	28,670	..	21,838
Glue	,,	16	..	17	..	22
Litharge.....	,,	350	..	767	..	909
Red Lead & White, & Lead Paint	,,	15,584	..	21,251	..	19,998
Oil, Varnish, and Turpentine....	,,	4,299	..	4,617	..	6,900
Paper	,,	4,655	..	5,153	..	5,548
Patent Fuel	,,	..	..	1,060	..	60
Purple Iron Ore	,,	59,574	..	59,602	..	36,609
Salt	,,	98	..	134	..	201
Slag and Mill Cinders	,,	2,724	..	9,555	..	977
Spanish Brown and Ochre	,,	..	..	..	..	65
Tar, Pitch, and Resin	,,	243	..	805	..	645
Venetian Red	,,	58	..	136	..	72
Vinegar and Acids	,,	3	..	74	..	75
Wood Pulp	,,	589	..	671	..	2

It is interesting to know to or from what countries the chief shipments of some of the more important items go or come, and we therefore append the following special analysis:—

IMPORTS.—Belgium and Holland again supplied most of the barytes, from whence 1,254 tons were shipped. The same source supplied 401 tons of drysalters' stores, the largest shipment. Of glucose, 760 tons came from the U S.A. Of cotton and linseed cake, 1,259 tons came from Russia. Of phosphates, 13,798 tons came from the U.S.A. Of burnt sulphur ore, 1,319 tons came from Sweden. Of sulphure ore, 50,070 tons came from Spain, and 19,242 from Portugal. Of salt, 7,452 tons were imported from Germany. Of mineral oils, the U S.A. sent 9,023 tons, and Russia 4,309. The largest shipments of esparto grass were from African ports, to the extent of 5,976 tons. Of wood pulp, Norway sent 1,184 tons.

EXPORTS.—The largest shipments of alkali were sent to Sweeden, which country took 2,197 tons, followed by Russia with 1,783 tons; Germany 1,667, and Holland and Belgium 1,501 tons. Only 596 tons were sent to the U.S.A., as against 1,652 tons in 1892. In bleaching powder the order of the countries, according to the size of the shipments, is the same as it was in 1892; Russia being first with 5,791 tons. Russia also took most caustic soda with 3,238 tons, while in the shipments to the U.S.A. there was a decrease of 1,221 tons compared with 1892. The States, however, took more soda crystals last year, the shipments totalling 2,515 tons. Of sulphur, Norway took 3,555 tons, and Spain and Gibraltar took 650 tons of patent fuel.

CARBORUNDUM.—We hear that Mr. E. G. Acheson, of Monongahela City, Pa., is to be awarded the John Scott Legacy Medal and Premium, by the Franklin Institute for the invention of Carborundum, the new substitute for emery as an abrasive material.

THE GAS SUPPLY OF LONDON AND LEEDS.

LONDON.

THE quality of the gas supplied to the City of London for the week ending March 10th, 1894, was good. According to the report of Mr. W. J. Dibdin, chemist and superintendent gas examiner to the London County Council, the tests made at the various testing stations showed no deficiencies in illuminating power. The following figures have been prepared from the report, and show the average composition of the gas calculated on the mean test :—

Company.	No. of districts tested.	Illuminating power (in stand. sperm candles). Mean average.	Sulphur. Grains in 100 cb. ft. Mean average.	Ammonia. Grains in 100 cb. ft. Mean average.	Sulphuretted hydrogen.
Gas Light and Coke Co.	13	16·46	11·54	0·26	Nil.
South Metropolitan Gas Co.	6	16·61	11·01	0·36	Nil.
Commercial Gas Co. ..	2	16·50	7·05	0·4	Nil.

The standard gas supplied by these companies should have an illuminating power of 16 sperm candles, and contain not more than 22 grains of sulphur and 4 grains of ammonia per 100 cb. ft. of gas on an average of three days withs a pressure of one inch between sunset and midnight, and six-tenths of an inch between midnight and sunset.

LEEDS.

According to the report of Mr. T. Fairley, F.I.C., gas examiner for Leeds, the total proportion of sulphur contained in the Leeds gas during the month ended March 8th, 1894, has averaged 14·29 grains per 100 cubic feet. The following are the results of tests made at the Works in grains per 100 cubic feet :—

Place.	Date when Tests were made. Feb. 1894.	Mar. 1894.	Total Sulphur.	Ammonia.	Carbonic Acid. Weight.	Volume.
Meadow Lane....	14, 24.	1, 8.	17·93	1·31	73·35	0·09
New Wortley	17, 22.	2, 6.	16·65	0 84	73·35	0·09
York Street	15, 21.	3, 7.	11·01	1·41	65·20	0·08
Average at Works	..	..	14·29	0·88	73·35	0·09
Average at East Parade	..	..	15·13	1·21	73·35	0·09

During the month the average illuminating power of the Leeds Gas tested at 16, East Parade, the tests being calculated to a uniform consumption of 5 feet per hour, and corrected for variations in temperature and pressure to a temperature of 60° Fahr. and a barometric pressure of 30 inches, has been in standard candles (burning 120 grains of sperm per hour) :—Standard argand, 24 holes, 17·8; standard batswing, 18·5; Sugg's illuminating power meter, 17·9.

Trade Notes.

Artificial Marble.—The late Mr. Frederick Ransome was the inventor of a beautiful process for making artificial stone, some of which is to be seen in connection with the India Office buildings, and notably in the ornamental balustrades of the flight of public steps leading into St. James's Park. It has been left, however, for another ingenious inventor, M. Moreau, to produce an artificial marble, which is manufactured from ordinary limestone in the following way :—The stone is first carved into the required shape, and is then immersed in a bath of soap and a kind of varnish, which is floated on water and picked up by the stone. The stone is then immersed alternately in a bath of iron and copper sulphate, which permeates the body of the material, and when the absorption is complete the stone is immersed in hot water, which drives the colouring matter to the very heart of it. After this the stone is placed in a bath of zinc sulphate, and on being removed, after a few hours' immersion, it is found to have the consistency and the specific gravity of marble. It is then dried in a warm chamber, after which it is ready for polishing. A demonstration of the method of manufacture was recently given at the works of the Marble (Moreau-Ray) Syndicate, Chelsea, where the preliminary stages of the conversion were exemplified.

Supposed Irregularities in the Iron and Steel Trade.—A deputation of working-men representing the iron and steel blast furnace industries waited upon Mr. Asquith last week to ask for an extension of the check-weighing clauses of the Mines Regulation Act, to those industries. It was complained that under present conditions the workmen had no guarantee that their wages were correctly ascertained by the weight of the metal produced, and by certain members of the deputation it was charged against some of the employers that they wilfully defrauded the workmen. Mr. Asquith said that w further evidence he could not believe that the fraudulent practice widespread. He could hold out in the meantime no hope of imm redress. Before he could move in the matter he must hear the side of the case. There was nothing novel, however, in their de and the only question was whether the clauses of the Act were able to their industry.

An Eight-hour Day in the Chemical Trade.—I Peter Spence and Co., alum manufacturers, having works at Ma ter and Goole, are making trial of an eight hour day at their factory. At their Manchester establishment the eight-hour d been an accomplished fact since the end of January, and the fi so satisfied with the results obtained that they are very hopeful their experiment at Goole. Their experience in Manchester scarcely any overtime need be worked with the eight-hour day. labour in one department only was at first found necessary, bu that has since been discontinued. The men are well satisfied wi new arrangement. Messrs. Spence have not confined the opera the eight-hour day to the men employed in the factories, but granted it to the whole of their employés. Mr. Frank Spen also in hand a scheme for an Accident and Abuses Prevention mittee, based upon some articles which appeared in the Daily some years since. The men elect the members of the commi the principle that bad arrangements or defective plant whic threaten life and limb are of infinitely more consequence to then to their employers.

Market Reports.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, Tues

The general market does not improve, and if there is any mo in prices it is rather to the decline. The amount of business pa still but trifling, and it is apparent that the buying half of the inclines to wait the chances of further drops.

Quite the strongest quarter is that of sulphate of ammonia, has given good warrant for the signs of added firmness last we rising distinctly over the £14. mark for prompt. By the close week makers were refusing offers of £14. down, and now most o demand £14. 2s. 6d., and are holding for that, although it is like *bona fide* buying is to be done at a fraction lower. This r prompt only. Forward inquiry is nowhere.

In mineral oils and paraffins there is no change. The rise per one dozen lbs. (not *two* dozen lbs. as inadvertently stated report) in paraffin candles is found, so far, to be easily maintaine considerable business has been booked at the better price. Lubr oils are quiet, but with no further drop. Gas-making oils fully position. Burning oil and naphtha unchanged in price, but co tion lessening with the opening of the year.

Chief prices current are :—Soda crystals £2. 5s. nett, soda ash 48/52° £3. 12s. 6d. to £3. 16s. 3d. nett, Tyne ; white 48/52° £4. 10s to £5. 5s. nett, Tyne; alum in lump £5. 5s. nett, Gl caustic soda, white, 74° £10. 10s., 70/72° £9. 5s., 60/62° £8. 5 cream 60/62° £8., all nett, Liverpool ; bleaching powder £6. £7. 10s., nett, Tyne; saltcake, 17s. 6d. ; borax, English refined and boracic acid, £37. 10s. nett, Glasgow ; bicarbonate of soda, casks, £6. 10s., and 1 cwt. casks £6. 15s. nett, Liverpool; bich of potash, 4½d. nett, for Scotch and English deliveries (for export nett, f.o.b. Glasgow) ; bichromate of soda, 3¾d. nett, for Scot English deliveries (for export, 3½d. nett, f.o.b. Glasgow) ; chl potash, 7½d. less 5%, Liverpool ; nitrate of soda, 9s. 10½d. ; s of ammonia, £14. 1s. 3d. to £14. 2s. 6d., f.o.b. Leith; salammoni and second white, £39. and £37. nett, any port ; sulphate of £15. 10s., less 5% Liverpool ; paraffin scale, hard 1⅞d. per lb.; so to 2d.; paraffin wax 120° semi-refined 2⅜d. to 2½d.; paraffi (naphtha), 4¼d. per gallon ; paraffin oil (burning), standard No. 1 5d. at works, for Scotch buyers (English sales, ½d to ¾d. ditto (lubricating) 865° £3. 12s. 6d. to £3. 17s. 6d.; 885° £4. and 890/895° £5. to £6. Week's imports of raw sugar at Gr were 5,478 bags and 5,117 baskets.

MISCELLANEOUS CHEMICAL MARKET

In the alkali trade business continues fairly good all round. D is well sustained both for bleaching powder and caustic soda, a prices for these articles are without change. Some greater inter been taken in ammonia ash, 58%, owing to the recent reduc price, but the make of this article is still considerably ahead of r ments – price, meantime, unaltered at £3. 2s. 6d. per ton, bags, makers' works, and £3. 10s. per ton, casks, f.o.b. Soda crysta less, and without change in price. Chlorate of potash 7½d. to

ly little business doing. Sulphur £3 17s. 6d., makers' works. ltcake very few transactions are recorded, and price is only al. Sulphate of copper in good request at £15. 15s., f.o.b. powdered arsenic remains very scarce at £14., nett, spot ry. Potash, caustic and carbonate, are firmer in tone, and there irly active demand. Carbonate, 90/95%, being £17., nett, c.i.f., ade in brown and grey acetates of lime has again relapsed into ess, with prices at £6. 7s 6d. per ton and £10. per ton tively, Acetate of lead slightly easier, and only small business Other acetates and acetic acid have all a slightly easier ncy corresponding with the raw material. In carbolic acid- ls and liquid, there is still a very quiet market. Tin, lead, and ılts, and general chemicals for textile manufacture are all some- depressed, owing to slackness of demand.

TAR AND AMMONIA PRODUCTS.

ızol is weak, as far as 90's are concerned, at 1s. 2½d., but 50/90's irly firm at 1s. 4½d. Solvent naphtha and crude both keep the same as to price. The position, however, is rather variable. is steadier at 27s to 27s. 6d., f.o.b. East coast. Crude carbolic s rather quiet with a slight alteration in price. Anthracene is d, 30% A, 1s. 1d., and B 10d.

phate of ammonia is decidedly firm, and the market does not to show signs of declining at present. Chief quotations are: on £14., London outside makes £14. 2s. 6d., Liverpool £14. ., Hull £14. 1s. 3d.,and Leith £14. 2s. 6d. to £14. 3s. 9d. The r figure, however, is perhaps nearest value at this port. Forward ess is very quiet.

REPORT ON MANURE MATERIAL.

ere has been more activity in the market throughout the week, good business has been done, chiefly for prompt or early delivery. d there is not very much to report, prices asked not offering much ement to buyers. The position of mineral phosphates is un- ged. There are sellers of 75/80% Florida rock at 9d. to , and 8¼d. to Continent, and at 8½d. to United Kingdom, in es c.i f. to safe ports. For Peace River and South Carolina River 7¾d. per unit remains the asking price, but it is relatively high is probable that a material concession will require to be made to e any important business. Buyers, in face of such a price, are ıg their attention to Continental and other descriptions of rock. e is no further business to report in cargoes of River Plate bones, 3s. 9d. is probably the nearest value for Spring, and £4. 15s. for ner-Autumn shipments, delivered good United Kingdom ports. Indian bone meal is scare on spot, and is fetching £5. 5s. and s. 6d. per ton, ex quay Liverpool Parcels afloat have been sold , per ton, and for shipment at £4. 17s. 6d., ex quay Liverpool. ıer sales of Mediterranean bones have been made at £4. 10s per ınd that is closing value. There has been a good deal of excite- in the nitrate of soda market, and a sharp advance all l. Closing spot value is 10s. 1½d. per cwt, and for steamer ıent due, 10s. 1½d. From cargoes due first half of April d. per cwt. would have to be paid, but from shipments due in 9s. 3d. to 9s. would be accepted. Due cargoes are worth about ıd., and for anything of good test arriving promptly 9s. 10½d. d be paid for the Continent. Owing to the unusually early n, and consequent early heavy drain for consumption, stocks at nental and U.K. ports have been so far reduced that a further ıce in price is not at all improbable, pending heavier arrivals. ıall parcel of River Plate dried blood, high test, arrived at Liver- has been sold at 10s. 7½d per unit of ammonia, ex quay, ıpool. Kainit is selling at 47s. 6d. per ton, in bags, nett cash, ıails, Garston, but may be had in quantity at 34s., c.i.f. Hull or Hartlepool. The quotation for 26% supers (25% guaranteed r the Fertilizers Act) is 46s. 3d. per ton, in bags, free rails at ınhead or Widnes.

TYNE CHEMICAL REPORT.

TUESDAY.

ıemicals are still quiet in tone, though there has recently been more ıess doing. Prices are still on a basis of £9. for 70%, and £10. for 76/77% caustic. Bleaching powder, £7. 10s. per ton. Soda als, £2. 2s. 6d. and £2. 5s. per ton gross weight. Other articles ered.

eaching Powder, softs, £7. 10s. per ton, nett; hards, £7. 15s per ton, ; caustic soda, 76/77%, £10. 15s. per ton, nett; do., 70%, £9. on, nett; recovered sulphur, 2 cwt. bags, £4. 2s. 6d. per ton, nett; ash, 48%, £3. 12s. 6d. per ton, nett; do., 52%, £3. 16s. 3d. ton, nett; do, 56%, £4. per ton, nett; alkali, 36%, £2. 15s. on, nett; white alkali, 48%, £4. 10s per ton, nett; do., 50%, £4. 15s. per ton, nett; do., 52%, £5. 5s. per ton, nett; hyposulphite of soda, 5-7 cwt. casks, £5. per ton; do., 1 cwt. kegs, £5. 10s. per ton, nett; silicate of soda, 75° Tw., £2. 17s. 6d. per ton, nett; do., 100° Tw., £3. 12s. 6d per ton, nett; do., 140° Tw., £4. per ton, nett; soda crystals, casks, £2. 2s. 6d. to £2. 5s. per ton gross weight; do., 2 cwt. bags, £2. 2s. 6d. to £2. 5s. per ton, nett; chlorate of potash, 8½d. per lb, less 6%; pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £4. 2s. 6d. per ton, nett; blanc fixe, £7. 10s. per ton, nett; chloride of barium, £7. 10s. per ton, nett; carbonate of alumina, £28. 15s. per ton, nett; aluminate of soda, £33. 15s. per ton, nett; in 5 ton lots, £28. 10s. per ton, nett.

South Durham Salt scarce and price firmer, 9s. 6d. and 10s. per ton, f.o.b. Tees, being lowest quoted.

Coals.—Trade is quiet, and prices generally on the downward tendency. Best Northumbrian steam, 10s. to 10s. 3d. per ton, nett; small steam 4s. 6d. to 4s. 9d. per ton, nett; gas coals firm, at 7s 3d. to 7s. 9d. per ton, nett; bunker coal steady, at 7s. per ton, nett; coke dull, 13s. 6d. to 14s. per ton, nett; manufacturing and household coals quiet and unaltered.

THE METAL MARKETS.

LONDON, TUESDAY. — Pig iron steady: Scotch warrants closed at 42s. 10d., Middlesbrough 36s. cash, and hematite 45s. Copper, steady: Chili bars, G.O.B.'s and G.M.B.'s, closed at £41. 6s. 3d. to £41. 11s. 3d. cash, and £41. 16s. 3d. to £42. 1s. 3d. three months. Tin, easier: Straits closed at £68 to £68. 10s. cash, and £68. 17s. 6d. to £69. 7s. 6d. three months; Australian, £68. 12s. 6d. English ingots, £73 to £73. 10s. Lead, easier: Spanish, £9. 5s.; English, £9. 7s. 6d. to £9. 10s. Silesian spelter, ordinary, £15. 15s. Nickel, 1s. 8d. Antimony, £36. Quicksilver: first hands, £5. 10s.; second hands, £5. 9s. 6d. *Copper shares*, steady: Cape, 1⅜ to 1½; Copiapo, 1¾ to 1⅞; Libiola, 3 to 3¼; Mason and Barry, 2⅛ to 2⅜; Rio Tinto, 15⅝ to 15$\frac{5}{16}$; Tharsis, 4¾ to 5.

GLASGOW, TUESDAY.—Market easier, with small business. Scotch done at 42s. 11½d. and 42s. 10½d. cash; closing with buyers at 42s. 10d. cash, sellers ask ½d. more. Cleveland done at 36s. cash, also at 36s 2½d. one month; closing with buyers at 36s. cash, sellers ask 36s. 0½d. Cumberland hematite closes with buyers at at 45s. cash, sellers ask 45s. 1d. Middlesbrough hematite closes with buyers at 44s. 0½d. cash, sellers ask 44s. 3d.

THE COPPER MARKET.

Messrs. Harrington and Co, in their fortnightly report, dated Liverpool, March 15th, state:—

Chili charters for the past fortnight are cabled as 750 tons, making the total since 31st December last 4,000 tons, against 4,000 tons same time last year. Exchange 13⅛d.

During the past fortnight the market for G.o.b.'s and G.m.b.'s has been active, and about 8,000 tons have changed hands Prices opened at £40. 15s cash and £41. 3s. 9d. three months, and declined till £40. 1s. 3d. and £40. 12s. 6d. respectively was touched on the 6th inst. An improvement followed, and values advanced with slight checks till £41. 2s. 6d. and £41. 13s. 9d. was paid for cash and three months, closing easier with sellers at £41. 1s. 3d. and £41. 11s. 3d. respectively.

The total stocks in Liverpool, Swansea, London, and Havre are 42,414 tons, against 43,764 tons on the 28th ult., showing a decrease of 1,350 tons for the fortnight. The stocks include about 800 tons of copper sold, but not yet delivered to smelters. The visible supply for the fortnight is 46,153 tons, against 47,454 tons on the 30th ult., showing a decrease of 1,301 tons The stock of English G.m.b.'s in Liverpool remains at four tons. Refined and manufactured sorts are steady. Quotations being:—Tough cake, £42. 10s. to £43.; best select, £43. to £44.; Indian sheets, £48 10s.; strong sheets, £51. to £52.; and yellow metal sheets, 4$\frac{7}{16}$d. per lb.

The sales of furnace material comprise:—54 tons Chili copper ore, at 7s. 6d.; 114 tons Mexican ore, at 7s. 6d.; 57 tons Indian ore, at 7s. 4½d.; 1,250 tons Mason's ore, at 7s. 6d. per unit for 5 per cent.; 15 tons Spanish precipitate, at 8s. 3d.; 100 tons Sotiel precipitate, at 8s. 3d. per unit; and 18 tons Argentiferous Peruvian Matte, on private terms.

LIVERPOOL OIL AND COLOUR MARKET.

TUESDAY.

OILS.—Palm oil is quiet, and only a small amount of business doing, most of which is confined to sales of Lagos at £21. 10s. per ton transit. Olive is steadier in tone, and is to be had at £30. to £37. per tun according to quality. Linseed is rather scarce, and therefore in better spot demand at 21s. 3d. to 21s. 6d. per cwt. for Liverpool

makes in export casks. The slight hardening in cotton seed is maintained, and Liverpool refined is quoted 20s. 6d. to 21s. 6d. per cwt. Castor oil is firmer, owing to the clearance of spot parcels at 2¼d., and good seconds Calcutta are now held for 2⅜d. per lb. Tallow is easier in price without a very brisk improvement in the demand. Prices are:—North American, 25s. to 27s.; and South American, 28s. to 29s. per cwt. Resin common is firm, but the higher grades are dull. Spirits of turpentine are moving pretty freely at last week's quotation of 22s. 6d. per cwt. Petroleum rather quiet, with American 4¼d. to 5½d. according to quality, and Russian refined 3⅝d. to 3¾d. per gallon.

COLOURS are steady without alteration in prices. Ochres: Oxfordshire, common, £10., medium, £12., best, £15.; Derbyshire, common, 40s.; medium, 50s., best, 60s.; Welsh, best, 70s., seconds, 50s., and common, 18s.; Irish, Devonshire, 40s. to 45s.; French, J.C., 55s. to 60s.; M.C., 65s. to 67s. 6d. Umber: Turkish quiet; Devonshire, 50s. to 55s. White lead, and oxide of zinc unchanged. Venetian red, £6. 10s. to £10. Cobalt: Prepared oxide, 9s. 9d.; black, 9s.; blue, 6s. Zaffres: No. 1, 3s. 6d.; No. 2, 2s. 6d. Oxide of iron: Common, £6.; medium, £10.; finest, £20. Zinc oxide, £23. to £25.

HULL PAINT, OIL, AND COLOUR REPORT.

TUESDAY.

OILS.—A general dulness seems to pervade business here, which is no doubt largely caused by anticipations for the coming holiday season. The principal imports up to date in 1893 and 1894 have been: Linseed (qrs.), 125,601, against 27 957 qrs. Rapeseed, 19,489 qrs, against 14,695 qrs. Cotton seed, 67,178 tons, against 74,439. Olive oil, 4,354 casks, against 2,930 casks. Rape oil, 1,984 casks, against 1,632 casks. Oil cakes. 6,728 tons, against 4,119 tons. Tallow, 4,094 cwts., against 7,484 cwts. Bones, 2,146 tons, against 1,591 tons. Turpentine, 4,196 barrels, against 3,042 barrels Linseed oil quiet and rather easier, with sellers at 19s. naked spot March-April or May-August; last four months steady at 18s. 3d. Boiled and refined from £1. to £2. per ton extra. Casks 17s. 6d., and ordinary barrels 22s. 6d. per ton extra. Exports for the week, 1,120 cwts. Refined cotton oil also very dull: spot offers at 18s. 3d. naked, and same price accepted for the month; May-August, 18s. 9d. sellers. Crude, 16s. 7½d. sellers spot; May-Aug, 17s. Export of refined for the week, 6,460 cwts. Rape oil continues easy, best brands in good demand. Castor oil, 2¼d. per lb. for first pressure. Spirits of turpentine, 22s. 6d. per cwt. Olive oil from £31. per tun. Cod oil in very limited demand, especially for export, £17. to £19. per ton. Sod oil continues in steady demand from £16. per ton. Pale seal oil, £20. per ton. Brown wool grease, £8. per ton. Anti-friction grease from £6. per ton. Engine and cylinder oils from 1s. to 2s. per gallon.

CAKES.—Linseed cakes are in moderate request: 95 per cent. pure, £8. 5s. to £8. 12s. 6d.; Russians, £7. 12s. 6d. to £7. 17s. 6d.; Polish, £8. Oil cakes, £6. 17s. 6d. to £7. 2s. 6d. Cotton cakes: A fair consumption at steady prices: Best makes, £4. 15s.; seconds, £4. 10s. Rape cakes: East India, £4. 10s.; Black Sea rape, £3. 15s. £3. 17s. 6d.

PAINTS.—These are now in good demand. Prices are: White lead in oil. £17. 10s. per ton; oxide of zinc in oil, £22. per ton; red lead, dry, £13. 10s per ton; Venetian red, dry, from £6. to £10. per ton; oxide of iron, dry, from £9. to £18.; ready mixed paints in various sized tins, from £25. per ton; oak varnish, from 5s. 6d. per gallon; common black varnish, £5. 10s. per ton, in barrels; enamels, 4s. 9d. per dozen.

The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of George E. Davis and Alfred R. Davis, who report professionally upon the value of Chemical Patents.

APPLICATIONS FOR ENGLISH LETTERS PATENT.

Manufacture of Caustic Soda, Nitric, and Sulphuric Acids. W. Garraway. 4,572. March 5.

Purifying Liquids and Fats. R. Andrew. 4,622. March 5.

Asbestos Cement. A. Kuhnewein. 4,632. March 5.

Preventing the Spontaneous Ignition of Coal. H. H. Lake. 4,636. March 5.

Combined Manufacture of Coal Gas and Water Gas. A. Mac'Laine 4,661. March 6.

Apparatus for converting Ordinary Gas Burners into Bunsen Burners L. B. Burnett. 4 700. March 6.

Improvements in Dust Collectors W. P. Thompson. 4,717. March 6.

Purification of Gas. E. Fleischhauer and M. Bernstein of the firm of J. F. Wallmann and Co. 4 719. March 6.

Plant for Purifying Waste Waters. H. Riensch. 4,726. March 6.

Mantles for Incandescent Burners. L. K. Böhm and T. C Crawford. 4,732. March 6.

The Deposition of Metals upon Aluminium. C. T. J. Oppermann. 4,761. March 7.

Improvements in Pulp Strainers. D N. Bertram. 4,771. March 7.

A Bleaching Preparation. H. Mächter. 4,791. March 7.

Apparatus for Separating Gases. W. P. Thompson. 4,812. March 7.

Improvements in Wool Washing—Extracting and Recovering Fat and Oil from the same J. Anderson, junr. 4,879. March 8.

Improvements in Purification of Sewage. W. D. Scott—Moncrieff. 4,908. March 8.

Separation of Iron and Zinc Salts from Solutions containing both. A. J. Boult. 4,916. March 8

Apparatus for Drying Phosphates, etc. D. W. Anderson and G. W. Parsons. 4,952. March 9.

Aluminium Solder. W. P. Thompson 4 980. March 9.

Manufacture of Phosphate Slags containing a high percentage of Soluble Phosphate with or without Magnesia or Potash. E. E. Dietz. 4,988. March 9.

Manufacture of Compressed Fuel. G. Buckley. 4,995. March 9.

Hydrocarbon Burners. J. M Martin 5,045 March 10.

Hydraulic Cement. G. W A. Stein. 5,071 March 10.

Apparatus for Working in Atmospheres containing excessive quantities of Carbonic Anhydride. W. E. F. Thompson 5,075. March 10.

Air Filtering and Humidifying Apparatus. J. Stott. 5,086. March 10.

Treating Flux Skimmings. J. H. Tarrant. 5,087. March 10.

Aluminium Solders. E. C. Broadwell. 5,090. March 10.

Gazette Notices.

PARTNERSHIPS DISSOLVED.

A. Camille, H Tyrrell, and R. L. Duggan, manufacturers of boot and furniture varnishes, polishes oil finishes, etc, Great Dover-street, London, S.E, under the style of the Devereux Manufacturing Co.

G. Walton and H. Fisher, dyers, Cleckheaton, under the style of Henry Fisher and Co.

BANKRUPTCY ACTS, 1883 and 1890.

Receiving Order.

Cornet Victor and Jones (trading as Cornet, Jones and Co.), Lynton-road, Bermonsey, S.E., chemical manufacturers and co-partners.

Adjudication.

Cockerill E. Lawrence (late trading as C. A. Remington & Co.), late Didsbury and Chorlton-on-Medlock, Manchester, oil merchant and refiner.

IMPORTS OF CHEMICAL PRODUCTS AT THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending March 10th.

Acetanilide—

Holland,	3 pkgs.	R. Morrison & Co.

Acetate of Lime—

France,	2,051 bgs.	Johnson & Hooper

Acetic Acid—

Holland,	10 pkgs.	J. Owen
,,	88	A & M. Zimmermann

Ano—

[illegible],	1 pkge.	T. Palmer
[illegible],	21 pkgs.	L. & I. D. Jt. Co.
	329 c.	Arnati & Harrison

Alum—

Belgium,	24 pkgs.	R. W. Greeff & Co.

Ammonium Chloride—

Germany,	6 pkgs.	F. Boehm

Anti Chlor—

Germany,	19 cks.	Thames S. T. & L. Co., Ltd.

Antimony Ore—

China,	103 t.	L & I. D. Jt. Co.

Arsenic—

Germany,	10 pkgs.	Burgoyne & Co.

Asbestos—

N. Russia,	£1,388	Bailey & Leetham
France,	16	Mory & Co.
Belgium,	70	J. Coppo & Co.

Barytes—

Holland,	45 cks.	T. & W. Farmiloe
,,	22	S. H. Willoughby
Belgium,	20	,,
,,	41	Burrell & Co
,,	58	Magee, Taylor, & Co.
Germany,	78	W. Harrison & Co.
,,	57	D. Storer & Sons
Belgium,	35	J. L. Lyon & Co.

Bleaching Soda—

Germany,	122 c.	H. Lambert

Borate of Lime—

Persia,	728 pkgs.	M. D. Co

Camphor—

Hong Kong,	300 pkgs.	S. Figgis & Co.
Germany,	2	L. & I. D. Jt. Co.
Japan,	220	74 tbs. R. Warner & Co., Ltd.
,,	151 tbs.	Lewis & Peat
,,	127	L. & I. D. Jt. Co.
E Indies,	148	,,
Hong Kong,	872	N. S. S Co.
,,	100 cs.	E. Barber & Son
,,	101 pkgs	City Com. W'h., Ltd.

Caoutchouc—

U States,	10 c.	L. & I D. Jt Co.
Rango n,	92	,,
Germany,	113	,,
Zanzibar,	12	,,
,,	14	Clarke & Smith

merica, 26 Price, Hickman, & Co.
tates, 2 E. Dunlop
" 2 L. P. D. Co.
ndies, 20 Ralli Brs.
" 110 Prop. Bull Wf.
ice, 6 "
agascar. 76 Lewis & Peat
" 97 Procter Brs.

onic Acid—
land, 50 tbs. J. F Putz & Co.

or Oil—
ice, 5 brls. Ross & Deering
6 cs W. G. Frith & Co.
10 cks. Johnson Brs.
25 brls. Beresford & Co.
ium, 80 Fuerst Bros.
', 20 cs. B. & N. Whvs. Co., Ltd.
ice, 6 L & I. D. Jt. Co.
ndies, 24 cks. "

tic Potash—
ice, 100 c. F. W. Berk & Co.
10 drs. Gellatly, Hank, & Co.

icals *(otherwise undescribed)*
nany, 84 pkgs. £12 T. H. Lee
" 27 Petri Bros.
" 49 A. & M. Zimmermann
" 4 Phillipps & Graves
ium, 7 T. Palmer
" 13 Arnati & Harrison
and, 74 T. H. Lee
" 5 Phillipps & Graves

m of Tartar—
ice, 18 pkgs. W. C. Bacon & Co
11 Ross & Deering
3 E. W. Carling & Co,
12 B. & F. Wf. Co., Ltd.
, 12 "
3 W. C. Bacon & Co.
5 C. Christopherson & Co.
and, 50 Kirkpatrick & Co.
, 22 Howards & Son

ine—
any, 50 bgs. Prop. Chmbln 's Wf.
20 Phillipps & Graves
50 M. D. Co
nd, 10 H. Lorenz

uffs—
lline
t. 30 pkgs. L. & I D. Jt. Co.
natto
ates, 12 pkgs. Park, Macfadyen & Co
n, 3 Eastwood & Holt
gols
17 pkgs. Thames S. T. & L. Co.

ch
oon, 3,000 pkgs. Leach & Co.
1,118 A. Howden & Co.
dies, 850 R. G. Hall & Co.
oon, 466 Hale & Son
500 J. & G. Bulloch & Co.
1,100 Anderson, Weber, & Smith
100 pkgs. W. H. Cole & Co.

tracts
ates, 100 bls. W. Burton & Sons
ce, 80 pkgs. B. & F. Wf. Co.
10 Union L. Co.
any, 20 T. H. Lee
nark, 1 Sorensen & Co.
ria, 600 A. J. Humphrey
da, 120 "

mbier
dies, 665 bls. Adamson, Gilfillan, & Co.
466 R & J. Henderson
330 Brown & Elmslie
190 Fisher, King, & Co.
746 bgs. Beresford & Co.
201 pkgs. S. Barrow & Bro , Ltd.
875 Brinkmann & Co.
468 Beresford & Co.
242 Sollas & Sons
12 E Boustead
888 L. & I. D Jt. Co.

co
s, 18 chts. G N. Rly. Co.
171 Arbuthnot, Latham, & Co.
356 L. & I. D. Jt Co.
19 Thomasset & Co.
8 Ralli Brs.
43 Elkan & Co.
4 Herrmann & Co.
77 W. Balchin
114 Wallace Brs.
95 Forbes, Forbes, & Co.
62 R. von Glehn & Sons
Ernsthausen & Co.

E. Indies, 6chts. G. A. Witt
" 12 Frith, Sands, & Co.
" 22 Ripley, Roberts, & Co.
" 23 E Bower & Co.

Madder
Holland. 1 pkge. W. Burton & Sons

Myrabolams
E. Indies, 2,000 pkgs. W. Shelcott
" 1,294 Hoare, Wilson, & Co
" 900 Lucas & Spencer's Wf., Ltd.
" 1,334 J. Graves
" 920 L. & I. D. Jt. Co.
" 306 Clarke & Smith

Orchella
Ecuador, 73 pkgs. Prop. Bull Wf.

Shumac
Italy, 351 pkgs. G. S. N. Co.

Tanner's Bark
Belgium, 22 t. Leach & Co.
" 11 Arnati & Harrison

Turmeric
E. Indies, 400 pkgs. Hale & Son
" 107 Devitt & Hett
" 731 L. & I. D. Jt Co.
" 163 W. M. Smith & Sons
" 250 Henderson Brs
" 123 Hoare, Wilson, & Co.
China. 565 Prop. Sun Wf.
E. Indies, 336 "

Valonia
A. Turkey, 1 t. J. Knill & Co.

Dyestuffs *(otherwise undescribed)*
Italy, 10 pkgs. G. W. Largen

Farina—
Germany, 100 pkgs. Seaward Bros

Glucose —
U. States, 100 pkgs. 100 c. Prop. Chmbln.'s Wf
" 250 250 c. J. Barber & Co.
" 500 500 H. Johnson & Sons
" 1,250 1,250 G. Hedges & Son
" 150 151 R. G. Hall & Co.
" 100 590 G. White
" 1,000 1,000 Humphrey & Co.
" 900 4,985 L. Sutro & Co.
" 520 2,600 L. Norman & Co.. Ltd.
" 50 300 C. F. Webster & Co.
" 50 *75 C. Southwell & Co.
Germany, 500 500 Baxter & Hoare
France, 200 200 Barrett, Tagant, & Co.
Holland, 100 100 Prop. Sun Wf.

Manganese—
N. Zealand, 40 t. H. Bath & Son
" 50 W. V. Robinson & Co.

Manure—
Canary Is , 3 t L. & I. D. Jt Co
Germany, 50 Perkins & Homer
" 10 W. G. Blagden
Belgium, 3 H. & E. Albert
France, 60 J Burnett & Sons
" 18 H. Knight
E. Indies, 25 A. Hunter & Co.
Belgium, 40 B. Jacob & Sons

Methyl Alcohol—
Germany, 4 cks. 13 dms. L. & I. D. Jt. Co.
Belgium, 6 10 Lister & Biggs
Germany, 10 Elkan & Co.
U. States, 153 brls. Allan Brs. & Co.

Mica—
Ceylon, £190 W. M. Smith & Sons

Ochre—
France, 15 cks. Ross & Deering
" 82 pkgs. W. Harrison & Co.
Holland, 15 6 cs. Phillipps & Graves
France, 200 cks. Blundell, Spence, & Co.

Paraffin Wax—
U. States, 203 brls. G. H. Frank
" 4167 J. H. Usmar & Co.
Rangoon, 495 cs. H. Hill & Sons

Phosphate Rock—
France, 270 t. A. Hunter & Co

Plumbago—
Holland, 89 cks. B. Gallaway
Cochin, 542 Parry & Co.
Ceylon, 96 brls. J. Forsey
" 169 Beresford & Co.
" 34 Powell, Jones, & Co.

Potash—
France, 400 c. F. W. Berk & Co.
Belgium, 70 Petri Brs.
" 380 P. Hecker & Co.

Potassium Carbonate—
France, 50 J. A. Reid
Germany, 117 C. Lamb & Co.

Potassium Chloride—
Germany, 102 pkgs. Anglo-Contl. G. Wks.

Potassium Permanganate—
Holland, 20 pkgs F. Boehm

Potassium Sulphate—
Germany, 15 cks. Fellows, Morton, & Co.

Pyrites—
Spain, 938 t. C. Tennant, Sons, & Co.
" 2,620 t Naylor, Benzon, & Co.

Quicksilver—
Spain, 5,000 flks. N. M. Rothschild & Sons
Italy, 500 btls. L. & I. D. Jt. Co.

Rosin—
Germany, 9 brls. H. Lambert
Holland, 12 cs. J. Hall, jnr., & Co.
U. States, 50 brls. H. Hill & Sons
" 150 F. & S. Chiesmann & Co.

Sal Acetol—
Holland, 1 pkge. R. Morrison & Co.

Salicylates—
Holland, 1 pkge. R. Morrison & Co.

Saltpetre—
Germany, 23 cks. P. Hecker & Co.
Chili, 10,291 bgs. W. Montgomery & Co.
E. Indies, 309 Lucas & Spencer's Wf.

Starch—
Belgium, 20 pkgs Leach & Co.
" 130 T. H. Lee
" 340 F. Rosenthal & Co.
Holland, 122 Phillipps & Graves

Stearine—
Holland, 30 bgs. Robinson, Roberts & Co.
France, 100 Walbaum & Tosetti
Belgium, 66 H. Hill & Sons
U. States, 5 L. & I. Dk. Co.

Talc—
Spain, £35 Magee, Taylor, & Co.

Tallow and Stearine—
U. States, 7 cks. Allan Brs. & Co.

Tartaric Acid—
U. States, 26 pkgs. A. Hughes
Holland, 4 Kirkpatrick & Co.

Turpentine—
N. Russia, 104 brls. C. B. Leighton
" 52 Schenker & Co.
" 104 F. & S. Chiesman & Co.

Ultramarine—
Germany, 4 cs. H. Brooks & Co.
" 8 L. & I. D. Jt. Co.
Belgium, 9 cks. C. J. Capes & Co.
Holland, 4 Spies Brs. & Co.
Belgium, 1 cs. Weare, Clifford & Co.
" 2 20 brls. Leach & Co.
" 1 brl. W. Harrison & Co
Holland, 4 cks. Magee, Taylor & Co.
" 5 cs. G. Rahn & Co.
" 20 cks. Hernu, Peron & Co.

Varnish—
France, 19 pkgs. Flageollet & Co.
U. States, 29 Pinchin, Johnson, & Co.
" 1 L. & I. Dk. Co.
" 10 Randall Brs.

Verdigris—
France, 3 pkgs. B. & F. Wf. Co., Ltd.

White Lead—
Germany, 11 cks. Petri Brs.
" 20 H. Lambert
" 50 M. Ashby, Ld.
" 27 Spies Bros., & Co.
France, 40 J. Watt & Son
Holland, 19 Burrell & Co.
" 50 T. & W. Farmiloe

Zinc Oxide—
Germany, 10 cks. Beresford & Co.
U. States, 200 brls. M. Ashby, Ltd.
Holland, 500 cks. Soundy & Sons
Germany, 50 brls. M. Ashby, Ltd.

LIVERPOOL.

Week ending March 8th.

Acetic Acid—
Rotterdam, 17 btls.

Alumina Sulphate—
Rotterdam, 1 ck.

Ammonium Sulphate—
Marseilles, 24 cks. Henderson Brs.

Barytes—
Rotterdam, 23 cks.

Benzine—
New York, 250 brls. Anglo-American Oil Co.

Bone Meal—
Bombay, 9,889 bgs.

Castor Oil—
Leghorn, 10 cs.

Chemicals *(otherwise undescribed)*
Rotterdam, 7 cks.

Colours—
Rotterdam, 1 ck.
Stettin, 25 cks. Clayton & Jowett
" 22 Evans, Sons & Co.

Cottonseed Oil—
New York, 200 brls

Dyestuffs—

Argols
Bordeaux 30 cks.

Cochineal
Teneriffe, 3 bgs. Swanston & Co.

Extracts
Marseilles, 30 cks. Henderson Brs.
Bordeaux, 100
Philadelphia, 125 bxs.
Trieste, 600 brls. Oak Extract Co
Nantes, 535 cks. "

Fustic
Corfu, 8 bdls. P. J. Manachi
" 5 t.
Colon, 1,023 ps. Widow Duranty & Son

Indigo
Bombay, qty. Bywater Tanqueray & Co.

Logwood
Jamaica, 421 t. 14 c. Bernard Hall & Co.

Myrabolams
Bombay, 87 bgs.

Orchella
Lisbon, 12 bls. Edward Brs.
Rotterdam, 62 18 bgs.

Saffron
Valencia, 1 cs.

Shumac
Palermo, 150 bgs. J. Kitchen
" 300 H. Rooke. Sons & Co
" 1,794 1 bl.

Turmeric
Bombay, 69 bgs.

Valonia
Smyrna, 200 bgs.

Dyestuffs *(otherwise undescribed)*
New York, 42 bxs.

Farina—
Stettin, 250 bgs.
Bahia, 1 brl. Millward Bradbury

Glucose—
Hamburg, 180 cks.
Baltimore, 150 brls.
Rouen, 60 bgs. Co-op. W'sale Society, Ld.

Iodine—
Valparaiso 79 brls. A. Gibbs & Sons
" 25

Iron Oxide—
New York, 150 brls.

Linseed Oil—
Hamburg, 3 cks.

Magnesia—
Marseilles, 2 cks. Henderson Brs

Manganese—
Halifax, 1 ck. G. G. Blackwell & Son

Mineral White—
Trieste, 100 sks. E. & R. Fa ta
" 145 . P

Naphtha—
New York, 4,036 brls A o-America Oil C

Ochre—
Marseilles, 111

Paint—
New York, 10 cks. Lightbound, Aspinall
Boston, 20 cs. A N. Sutton & Co.
" 55
Paraffin Scale—
New York, 642 brls. Thompson & Bedford
Phosphate Rock—
West Point, Va., 2,020 t. Lazard Frères
Potash—
Hamburg, 12 cks.
Portland, 13 bls. Makin & Bancroft
Dunkirk, 44 dms.
Rouen, 92 cks. Co-op. W'sale Society, Ld.
Pumice Stone—
Leghorn, 11 bls.
Messina, 40 bgs. J. Fowler
" 20 cs. 100 W. Canning & Co.
Pyrites—
Huelva, 5,132 t. Matheson & Co.
Rosin—
Baltimore, 1,300 brls.
Saltpetre—
Hamburg, 20 cks. 20 kgs.
Rotterdam, 170 bgs.
Soap—
New York, 200 brls.
Boston, 2 cs.
Marseilles, 1 bx. 40 Henderson Brs.
" 17
New Orleans' 2,312 brls.
Philadelphia, 1,100 bxs. 29 cs. 63 crts.
Corfu, 1 cs. Raffail Beiso
Sodium Silicate—
Rotterdam, 2 cks.
Starch—
New York, 242 bgs.
Hamburg, 160 cs.
Rotterdam, 147
Ghent, 44 cs. J. T. Fletcher & Co.
Stearine—
New York, 25 hds.
Sulphur—
Catania, 270 brls. 75 t.
Talc—
Bordeaux, 200 bgs. G. G. Blackwell
Tallow—
Baltimore, 28 brls.
Philadelphia, 11 hds. 123 tcs.
San Nicolas, 396 hf.-pps
Zarate, 105 pps. J. Nelson & Sons, Ld.
Rouen, 147 bgs. Co-op. W'sale Society, Ld.
Tar—
Hamburg, 1 ck.
Tartar—
Bordeaux, 38 cks.
Tartaric Acid—
Rotterdam, 4 cks.
Ultramarine—
Bremen, 16 cks.
Varnish—
Portland, 8 cs. J. Carven
Verdigris—
Marseilles, 1 brl. Henderson Brs
White Lead—
Rotterdam, 94 cks.
Zinc Oxide—
Rotterdam, 185 cks
Zinc Skimmings—
New York, 220 brls. 84 kgs.
Zinc White—
Rotterdam, 149 cks.

MANCHESTER.

Week ending March 10th.

Albumen—
Treport, 5 cks.
Alumina Sulphate—
Rotterdam, 59 cks.
Aniline Oil—
Rotterdam, 3 cks
Chemicals *(otherwise undescribed)*
Rotterdam, 10 brls. 1 bx.
Colours—
Rotterdam, 100 cks. 23 cs. 27 brls. 7 bxs.
" 1 Simpson, Howden, & Co.
Treport, 12 cs. 30 cks.
Dyestuffs—
Alizarine
Rotterdam, 4 cs. 72 brls. 41 cks. 1 bx.
Dried Blood—
Treport, 20 cs
Lead Acetate—
Rotterdam, 34 cks. Simpson, Howden, & Co
Limestone—
Rotterdam, 2 crts. Simpson, Howden, & Co.
Antwerp, 2 cs.
Mineral White—
Bordeaux, 100 bgs.
Ochre—
Treport, 33 cks
Potash—
Treport, 5 cks. 8 dms.
Starch—
Rotterdam, 208 cs.
Ultramarine—
Rotterdam, 5 cks.
Verdigris—
Bordeaux, 2 cks.

HULL.

Week ending March 10th.

Acetic Acid—
Antwerp, 9 pks.
Acid—
Hamburg, 8 cks. Wilson, Sons, & Co., Ltd.
Barytes—
Rotterdam, 48 cks. Blundell, Spence & Co.
" 40 bgs W. & C. L. Ringrose
Antwerp, 118 cks. Bailey & Leetham
Bremen, 10 W. Gray & Co
" 46 Tudor & Sons
" 103 bgs
Castor Oil—
Leghorn, 15 cs Wilson, Sons, & Co., Ltd.
" 5
Cellulose—
Trieste, 480 bls. Wilson, Sons, & Co., Ltd.
Chemicals *(otherwise undescribed)*
Hamburg, 12 brls. Wilson, Sons, & Co., Ltd.
Bari, 42 cks. "
Rotterdam, 4 bxs. W. & C. L. Ringrose
Antwerp, 205 pks. Wilson, Sons, & Co., Ltd.
Dunkirk, 99 "
Colours—
Rotterdam, 37 cks. 2 pkgs.
" 3 22 pks. 9 cs 5 brls. Hutchinson & Son
" 2 75 pks. 1 cs W. & C. L. Ringrose
Stettin, 5 Wilson, Sons, & Co., Ltd.
Flushing, 40 19 6 cs. Hutchinson & Son
Hamburg, 15 cs. Wilson, Sons, & Co., Ltd.
Amsterdam, 3 W. & C. L. Ringrose
Rouen, 5
Copper Oxide—
Rotterdam, 2 cs. Hutchinson & Son
Cottonseed Oil—
New York, 300 brls. Wilson, Sons, & Co., Ltd
" 5 Lofthouse & Saltmer
Dextrine—
Stettin, 20 bgs.
Dyestuffs—
Alizarine
Rotterdam, 13 brls. Hutchinson & Son
Annatto
New York, 25 bgs. Wilson, Sons, & Co., Ltd.
Fustic
Hamburg, 886 pcs. Wilson, Sons, & Co., Ltd.
Myrabolams
Bombay, 9,520 bgs.
Sumac
Palermo, 1,800 bgs.
Valonia
Smyrna, 10 t.
Farina—
Harlingen, 500 bgs.
Stettin, 100 bgs. Wilson, Sons, & Co., Ltd.
" 570
Hamburg, 100 "
Ghent, 285 cs. "
Glucose—
Stettin, 15 cks.
New York, 150 brls.
Rotterdam, 50 bgs. Hutchinson & Son
Limestone—
Antwerp, 1 crt. Bailey & Leetham
" 1 pce.
Ochre—
Marseilles, 68 cks.
Paint—
New York, 40 cs. Wilson, Sons, & Co., Ltd.
Marseilles, 23 dms.
Phosphate—
Ghent, 2,370 bgs. 101 t.
Antwerp, 100 Wilson, Sons, & Co, Ltd.
Pitch—
Hamburg, 30 brls. Wilson, Sons, & Co., Ltd.
Pumice Stone—
Messina, 136 pks. Wilson, Sons, & Co., Ltd.
" 20 cks.
Pyrites—
Huelva, 640 t.
Saltpetre—
Antwerp, 135 bgs. Wilson, Sons, & Co., Ld
Hamburg, 5 brls. Lofthouse & Saltmer
Soap—
Bari, 1 cs.
Rotterdam, 1 W. & C. L. Ringrose
Naples, 37
Hamburg, 40 bxs. T. D. Dales & Co
Sodium Acetate—
Rouen, 13 cks. Blundell, Spence, & Co.
Sodium Nitrate—
Iquique, 9,318 bgs.
Sodium Phosphate—
Rotterdam, 7 cks. Hutchinson & Son
Starch—
Rotterdam, 139 cs. Hutchinson & Son
Bremen, 1,370 Veltmann & Co.
Amsterdam, 20 W. & C. L. Ringrose
Stearine—
Antwerp, 52 bgs. Wilson, Sons, & Co., Ltd.
Sulphur—
Catania, 200 pks Wilson, Sons, & Co., Ltd.
" 1,867
Tartaric Acid—
Rotterdam, 2 cks.
Turpentine—
Libau, 52 brls.
Bordeaux, 10 cks. Rawson & Robinson
Ultramarine—
Rotterdam, 3 pkgs. 4 cks.
Hamburg, 4
Rotterdam, 1 cs. Hutchinson & Son
Waste Salt—
Hamburg, 771 bgs. Wilson Sons, & Co., Ltd.
" 405
White Lead—
Cologne, 86 cks.
Antwerp, 43 Bailey & Leetham
Rotterdam, 7 cks W. & C. L. Ringrose
" 24 Storry, Witty & Co.
" 10 Sissons Bros. & Co.
Zinc Oxide—
Antwerp, 100 brls. Bailey & Leetham
Zinc White—
Cologne, 10 cks.

GLASGOW.

Week ending March 15th.

Aniline—
Rotterdam, 10 brls. J. Rankine & Son
Arachide Oil—
Rotterdam, 4 cks. J. Rankine & Son
Barium Sulphate—
Antwerp, 502 bgs.
Barytes—
Rotterdam, 11 cks. J. Rankine & Son
Carbonic Acid—
Rotterdam, 20 tbs. J. Rankine & Son
Castor Oil—
Antwerp, 57 cks.
Chemicals *(otherwise undescribed)*
Rotterdam, 8 brls. 2 cs. 3 bxs. J. Rankine & Son
Colours—
Rotterdam, 10cks. 1 cs. J. Rankine & Son
" 52 pkgs.
Hamburg, 2 cks.
Cottonseed Oil—
Rotterdam, 65 brls. J. Rankine & Son
Dextrine—
Stettin, 660 bgs.
Dyestuffs—
Alizarine
Rotterdam, 1 brl. J. Rankine & Son
" 29 cks 16 pkgs.
Extracts
Philadelphia, 50 brls.
Farina—
Delfszyhl, 405 bgs.
Stettin, 300
Hamburg, 100
Painters' Colours—
Antwerp, 6 cks.
Paraffin Scale—
Philadelphia, 910 brls.
Potash—
Rotterdam, 20 cks. J. Rankine & Son
Potassium Carbonate—
Hamburg, 10 cks.
Pyrites—
Huelva, 1,528 t. Tharsis Co.
Rosin—
Savannah, 1,688 brls. L. & J. McLellan
Starch—
Rotterdam, 198 cs. J. Rankine & Son
Tallow—
New York, 59 hhds.
Tartar—
Bordeaux, 4 cks.
Tartaric Acid—
Rotterdam, 8 cks. J. Rankine & Son
Turpentine—
Savannah, 1,350 brls. L. & J. McLellan
White Lead—
Rotterdam, 10 cks. J. Rankine & Son
" 27
Zinc Oxide—
Rotterdam, 30 cks. J. Rankine & Son
" 10
Stettin, 35 brls.
Zinc White—
Rotterdam, 109 cks. J. Rankine & Son

TYNE.

Week ending March 10th.

Alum Earth—
Hamburg, 27 cks. Tyne S. S. Co.
Barytes—
Rotterdam, 50 cks.
Antwerp, 72 Tyne S. S. Co.
Colours—
Antwerp, 2 cks. Tyne S. S. Co.
Farina—
Antwerp, 5 bgs. Tyne S. S. Co.
Glucose—
New York, 100 brls.
Limestone—
Antwerp, 10 crts. 1 cs. Tyne S. S. Co.

re—
rdam, 20 cks
—
erp, 4 cks. 2 dms. Tyne S. S. Co.
etre—
burg, 450 t. Clephens & Wiencke
ur Ore—
ron, 941 t. Mason & Barry
w—
York, 50 hhds.
ntine—
erp, 2 brls. Tyne S. S. Co.
marine—
burg, 15 cks. Tyne S. S. Co.

Zinc Oxide—
Antwerp, 10 brls. Tyne S. S. Co.

GOOLE.

Week ending March 7th.

Acetic Acid—
Rotterdam, 5 cks.
Alkali—
Hamburg, 25 cks.
Aluminium—
Antwerp, 2 cs.
Antimony—
Boulogne, 2 cks.
Caoutchouc—
Boulogne, 6 cks.

Dyestuffs—
Alizarine
Rotterdam, 9 pkgs. 18 brls.
Logwood
Jamaica, 1,170 t.
Belize, 816
Dyestuffs (*otherwise undescribed*)
Boulogne, 29 cks 3 cs.
Ghent, 5
Farina—
Hamburg, 500 bgs.
Glucose—
Hamburg, 36 cks.
Lead Acetate—
Hamburg, 27 cks.

Potash—
Rotterdam, 29 cks.
Dunkirk, 8
Saltpetre—
Rotterdam, 200 bgs.
Hamburg, 2 cks.

GRIMSBY.

Week ending March 10th.

Caoutchouc—
Rotterdam, 3 cs.
Chemicals (*otherwise undescribed*)
Hamburg, 11 cs.
Kainit—
Hamburg, 499 bgs.

EXPORTS OF CHEMICAL PRODUCTS
OF
THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending March 14th.

—
, 10 cs. £8
—
ica, 5 t. £29
erara, 8 c. 6
Sulphate—
ourne, 4 t. 1 c. £15
onium Carbonate—
yres, 1 t. £40
eaux, 1 5 c. 40
kirk, 4 13 149
onium Chloride—
aide, 5 c. £6
burg, 35 cks. 200
yne. 10 17
ey, 7 t. 5 145
u, 1 18 42
erdam, 8 16
izonde, 7 12
land, 18 22
tz, 6 11
onium Sulphate—
enburg, 30 t 5 c. £418
nd, 9 133
kirk, 29 19 403
erdam, 300 4,200
en, 150 2,100
burg, 100 1,400
k—
burg, 9 c. £24
olic Acid—
utta, 24 dms. 8 c. £53
el Torf, 40 cks. 265
erdam, 9 t. 8 40 438
ey, 20 dms. 18
ritius, 4 3 107
on Bisulphide—
Town, 15 t. 12 c. £276
tic Soda—
il, 17 c. £18
edin, 4 t. 19 54
yres, 20 1 201
nanton, 1 3 12
land, 5 49
nsville, 9 13
ourne, 15 2 190
icals (*otherwise undescribed*)
a Bay, 6 cs. £12
burg, 3 c. 50
andria, 6 50 pkgs. 152
bane, 2 1 ck. 18
land, 8 111
Acid—
laide, 2 c. £15
bay, 3 26
burg, 2 cks. 18 5 kgs 249
u, 3 t. 451
erdam, 5 40
andria, 10 78
on, 2 16
bane, 1 4
Products—
alline Dyes
ssa, 2 cks. £36
logne, 3 123
nthracene
erdam, 56 cks. £290
nzol
is, 20 cks. £148
logne, 15 255
erdam, 23 dms. 258
aphtha
utta, 10 crts. £20
lington, 5 drs. 12

Naphthaline
Marseilles, 5 cks. £8
Bilbao, 4 1 cs. 15
Hamburg, 5 5
Pitch
New York, 1,000 bgs. £150
Dordt, 185 t. 213
Havre, 991 1,407
Terneuzen, 297 423
Dunkirk, 1,555 2,260
Pyridine
Calais, 1 ck. £8
Tar
Newcastle, 50 dms. £9
Hong Kong, 20 brls. 18
Brussels, 10 5
Coal Products (*otherwise undes.*)
Sydney, 75 brls. £73
Copperas—
Saffi, 21 t. £167
Copper Sulphate—
Odessa, 5 t. 2 c. £75
Libau, 1 8 20
Bordeaux, 25 400
Canterbury, 1 16
Lisbon, 5 73
Stettin, 1 6 16
Galatz, 10 8
Genoa, 19 6 280
Leghorn, 44 2 640
Naples, 11 160
Catania, 4 8 64
Corrosive Sublimate—
Madras, 1 cs. 2 c. £48
Cream of Tartar—
Sydney, 1 t.
Wellington, 5 c. £18
Auckland, 1 10 106
Thursday Id., 10 38
Townsville, 2 8
Cape Town, 8 25
Disinfectants—
E. London, 20 kgs. £10
Melbourne, 10 cs. 21
Sydney, 8 pkgs. 4 c. 28
Madras, 2 cks. 5
Auckland, 4 15
Hamburg, 25 125
Brisbane, 8 31
Allepey, 4 13
Disinfectants and Ammonia (Liquid)—
Calcutta, 24 pkgs. £44
Flowers of Sulphur—
Algoa Bay, 4 t. 9 c. £39
Manure—
Cape Town, 6 t. 16 c. £32
Gothenburg, 128 1 383
Hamburg, 271 13 1,230
Trinidad, 20 183
Jersey, 31 15 268
Rouen, 15 16 113
Penang, 25 150
St. Lucia, 20 200 bgs. 106
Rotterdam, 10 38
Demerara, 200 475
Bordeaux, 102 1 633
Jamaica, 5 1 65
Treport, 19 18 120
Townsville, 15 12 247
Gothenburg, 80 15 246
Muriatic Acid—
Cape Town, 10 cs. £8
Nitric Acid—
Jersey, 28 cbys. £52
Constantinople, 12 cs. 42
Melbourne, 14 27

Oxalic Acid—
Constantinople, 2 cks. £8
Lisbon, 7 11
Phosphate—
Madras, 13 c. £13
Potassium Bicarbonate—
Melbourne, 1 t. £56
Potassium Carbonate—
Adelaide, 11 c. £9
Potassium Chlorate—
Calcutta, 9 c £35
Odessa, 1 t. 1 69
Uddevalla, 2 65
Potassium Cyanide—
Madras, 3 c. £16
Salicylic Acid—
Hiogo, 1 cs. £31
Saltpetre—
Adelaide, 10 c. £11
Algoa Bay, 9 10
Pt. Elizabeth, 5 7
Melbourne, 7 8 163
Lisbon, 3 13 79
Sheep Dip—
E. London, 1,140 dms. £280
Fremantle, 20 cs. 55
Odessa, 150 450
Novorossisk, 250 750
Algoa Bay, 495 133
Pt Elizabeth, 2,250 86 931
New York, 300 600
Kingston, 40 13
Soda—
Algoa Bay, 6 t 18 c. £186
New York, 15 10
Natal, 1 5
Soda Ash—
Melbourne, 30 t £129
Auckland, 5 21
Soda Crystals—
Newcastle, 26 t. £60
Bunbury, 2 2 c. 7
Natal, 3 5 11
Sydney, 50 113
Alexandria, 9 24
Singapore, 5 3
Sodium Amalgam—
E. London, 1 cs. £26
Sodium Bicarbonate—
Algoa Bay, 2 t. £14
Singapore, 6 c 12
Natal, 1 8
Auckland, 10 3
Gisborne, 1 6
Thursday Id., 1 7
Townsville, 1 10 10
Sodium Silicate—
Fremantle, 3 t 2 c. £16
Auckland, 4 1 21
Sulphur—
Lisbon, 250 brls. £179
Madeira, 28 t. 4 c. 279
Sulphuric Acid—
Penang, 1 t. 5 c. £13
Algoa Bay, 10 cs. 9
Colombo, 3 15 50 60
Constantinople, 22 18
Tartaric Acid—
Adelaide, 2 t. £200
Bombay, 7 c. 3 cs. 50
Hamburg, 3 15
Sydney, 1
Wellington, 5 29
Sydney, 1 5 121
Auckland, 15 71
Brisbane, 2 41
Melbourne, 5 24
Galatz, 2 10

LIVERPOOL.

Week ending March 14th.

Alum—
Vigo, 1 t. 4 c. 2 q. £6
Calcutta, 25 9 143
St. John, N.B., 12 17 52
Galatz, 1 6
Salaora, 1 5
Patras, 3 8 17
Ibrail, 4 18 34
Palermo, 1 7
New York, 3 66
Alum Cake—
Calcutta, 30 t. 11 c £85
Ammonia—
Gd Canary, 17 c. 3 q. £35
Panama 2 8
Ammonium Carbonate—
Venice, 1 t. £33
Portland, M. 10 c. 1 q. 18
Ammonium Chloride—
Christiania, 4 c. 2 q. £8
Malta, 6 11
Havre, 1 t. 8 3 40
Smyrna, 12 20
Constantinople, 1 37
Ammonium Sulphate—
Valencia, 173 t. 5 c. £2,370
Malaga, 51 3 714
Bordeaux, 5 1 3 q. 70
New York, 51 714
Genoa, 10 1 3 140
Messina, 5 5 3 74
Antwerp, 50 676
Gr. Canary, 2 28
Dunkirk, 5 3 63
Philadelphia, 25 7 360
Hamburg, 40 16 704
Porto Rico, 1 14
Demerara, 4 12 3 67
Antimony—
Rio de Janeiro, 3 c
Asbestos—
Mauritius, 1 cs.
Alexandria, 1
B. Ayres, 2
Manila. 1 1 bl.
Rotterdam, 6 7
Barium Chlorate—
Rotterdam, 5 c. £20
Bleaching Powder—
Baltimore, 83 cks.
Bilbao, 58
Boston, 569
Callao, 7
New York, 591
Rouen, 14
Vigo, 6
Alicante, 29
Chicago, 40 bxs.
Corunna, 2
Havana 40 brls.
Newport News, 92
Philadelphia, 36
Vera Cruz, 70
Boracic Acid—
Habana, 6 c. 1 q. £13
Borax—
Ghent, 1 t. £30

Antwerp, 7 9 c. 217
Sydney, 1 27
Rotterdam, 9 12
San Juan, 6 8
Santander, 2 19 85
M. Video, 1 26
Ghent, 4 7 3 q 130
New York, 10 14
Hamburg, 18 15 1 565

Calcined Magnesia—
Leghorn, 2 cs.

Calcium Chloride—
New York, 9 t. 10 c. £20

Carbolic Acid—
Rotterdam, 9 t. 10 c. £560
Odessa, 2 17 15
Amsterdam, 4 13
Hamburg, 10 17 578
N. Orleans, 10 2 3 390

Caustic Potash—
Chicago, 4 t. £96

Caustic Soda—
Alicante, 85 dms. 5 brls 50 cks.
Barcelona, 622 134
Bilbao, 30
Boston, 35
Corfu, 40
Fiume, 70
Hamburg, 42
Hiogo, 300
Malta, 17
Manila, 50
Maracaibo, 10
Melbourne, 235
Rouen, 15
Shanghai, 4
Vigo, 32
Algoa Bay, 20
Amsterdam, 34
Campeche, 25
Ceara, 10
Chicago, 625
Corunna, 6
Galatz, 61
Genoa, 30
Lisbon, 50
Matanzas, 60
Nantes, 35
N Orleans, 50
New York, 436 50 25 kgs.
Oporto, 15
Penang, 50
Pernambuco, 25
Philadelphia, 15
Portland, M., 35
Rangoon, 14
Rotterdam, 2
San Francisco, 10 bxs.
Santa Marta, 10
Valencia, 140
Vera Cruz, 150

Chemicals *(otherwise undes.)*—
Gothenburg, 5 c. 1 q. £9
Genoa, 2 t. 72
Konigsberg, 11 20
Cairo, 2 4 79
Mersyne. 8 14
Alexandria, 2 70

China Clay—
Bombay, 272 t.
Boston, 1,667 7 c.
Calcutta, 50
Lisbon, 2 7
New York, 275
Oporto, 10
Philadelphia, 125
Rio de Janeiro, 4

Chloroform—
M. Video, 1 cs.
Vera Cruz, 1

Citric Acid—
Lisbon, 5 c. £37
Manila, 2 2 q. 20

Coal Products—
Alizarine
Oporto, 1 ck.
Aniline Colours
New York, 2 kgs.
Aniline Dyes
Tumaco, 1 cs.
Aniline Salts
Piræus, 25 brls.
Pitch
Galatz, 6 t.
Marseilles, 865
Port de Bouc, 40
Cette, 1,128 10 c.
Tar
Barcelona, 7 cks.
Bombay, 15 brls.
Galatz, 10 t. 14 c.
Manila, 50 dms. 12 cks.
Ibrail, 20 brls.
Lagos, 20

Copperas—
Syra, 1 t. 5 c. £25
Vera Cruz, 1 17 2 q. 4

Copper Sulphate—
Patras, 5 t 12 c. £82
Venice, 94 17 1 q. 1,440
Bombay, 5 74
Naples, 13 16 1 210
Fiume, 32 8 2 493
Trieste, 73 1 1,130
Leghorn, 26 5 3 406
M. Video, 5 3 3 80
Genoa. 187 17 2 2,947
Oporto, 19 16 1 305
New York, 24 14 3 385
Brindisi, 37 10 3 558
Lisbon, 49 18 3 732
Odessa, 9 18 3 152
Nantes, 15 2 240
Bordeaux, 242 5 1 4,066
Rosario, 13 11 3 197
Madras, 1 17
Marseilles, 218 11 3 3,425
Algiers, 2 3 31
Dantzic, 10 4 2 153
Galatz, 5 4
Tampico, 25 2 391

Disinfectants—
Bombay, 10 t. 5 c. £110

Flowers of Sulphur—
Lisbon, 3 t. 11 c. £25

Guano—
Barcelona, 70 t. £158

Iron Oxide—
Lisbon. 2 t. 3 c. 3 q. £43
M. Video, 8 8 112

Iron Liquor—
Naples, 3 t. 3 c. 3 q. £24

Lead Acetate—
Naples, 2 t £45

Lime—
Little Popo, 20 brls.

Litharge—
Algoa Bay, 5 kgs.
Bilbao, 3 brls.

Magnesia—
Genoa, 2 cs.

Magnesium Carbonate—
Tampico, 3 cs.

Magnesium Sulphate—
Cadiz, 48 brls.

Manganese Ore—
Hamburg. 3 cks.

Manure—
Hamburg, 19 t. 10 c. £90
Cherbourg, 499 13 1,388
Bordeaux, 2 50
Teneriffe, 2 16

Metallic Sodium—
Rotterdam, 4 t 12 c 3 q. £987

Ochre—
Kingston, Jam., 5 cks.

Oxalic Acid—
Boston, 17 t. 5 c. 2 q. £458

Paint—
Calcutta, 31 cks.
Gibraltar, 7 pkgs.
Havre, 45 kgs. 3 brls.
Kingston, Jam, 302
Kustendjie, 12
Lisbon, 8 cs.
Manila, 42 1,150
Smyrna, 480
Cabenda, 124 20 dms.
C. C. Castle, 28
Copenhagen, 40
Hamburg, 5 53
Havana, 2 tcs 1
Hong Kong, 48
Iloilo, 5 brls.
New Orleans, 38
Panama, 10
Talcahuano, 4
Vera Cruz, 3

Painters' Colours—
Baltimore, 80 cks.
Benguella, 2
Bolama, 4
B. Ayres, 150 cs. 6 6 kgs.
Capetown, 3
Hamburg, 50 bgs.
Leghorn, 30
Manila, 2
Marseilles, 100
Matanzas, 5
M Video, 12
New York, 7 15
Para, 5 tcs. 3 20 8 brls
Piræus, 11
Amsterdam, 4 dms. 6
Brass, 21
Ceara, 3
Cienfuegos, 40 3
Galatz, 70 cs. 90
Gothenburg, 99 bgs.
Hiogo, 2 5
Lisbon, 72 35 dms.
Manaos, 16
Odessa, 92
Salaora, 1 brl.

Paraffin Wax—
Bilbao, 80 bgs.
Para. 25 cs.

Paris White—
Naples, 10 cks
Halifax. 20 brls.

Phosphorus—
Kobe. 24 cs. £240
Yokohama, 10 135
Shanghai, 20 200

Plumbago—
Bilbao, 1 ck.

Potassium Bichromate—
Piræus, 1 t. 1 c. £46
Halifax, 8 2 q. 19
Copenhagen, 19 2 19
Vera Cruz, 18 37

Potassium Chlorate—
Genoa, 1 t. £59
Hiogo. 30 1,791
New York, 30 5 c. 1,818
Shanghai, 1 10 89
Yokohama, 9 563
Gothenburg, 1 10 90
Philadelphia, 6 5 389

Potassium Prussiate—
Naples, 5 c. 3 q. £46

Salt—
Accra, 12 t. 10 c.
Amsterdam, 80
Antwerp, 340
Calcutta, 10,673
Canada, 150
Cape Palmas, 24 11
Ghent, 80
Hakodati, 100
Lavannah, 25
Loango, 14 10
Manaos, 3 10
Manoh, 22
Monrovia, 14 14
Pernambuco, 10
Rangoon, 401
Rotterdam, 80
Trinidad, 36 bxs.
Axim, 11 10
Brass, 10
B. Ayres, 5 7
C. C. Castle, 37 10
Halifax, 10
Lagos, 199 6
Newport News, 100
Old Calabar, 90
Para, 165
Portland, Me., 90 18
Santos, 2 2
Shanghai, 8
Sierra Leone, 200
Sulymah, 20

Saltcake—
Antwerp, 225 t. £211
New York, 100 8 c. 3 q. 75

Saltpetre—
Pernambuco, 5 t. 14 c. 1 q. £133
Ceara, 1 16 1 43
Carthagena, N G, 3 14 80
Maceio, 19 3 23
Maranham, 1 6 3 32

Sheep Dip—
B. Ayres, 17 t. 17 c. £500
San Francisco, 4 75
M. Video, 2 7 91

Soap—
Accra, 153 bxs.
Addah, 100
Adjuah, 116
Algoa Bay, 250
Amsterdam, 2,045
Antigua, 90
Barbadoes, 700
Berbice, 100
Bombay, 468 50 cs.
Canada, 1
C C. Castle, 368
Cape Town 50
Corfu, 6
Gr. Canary, 790
Hamburg, 5
Havre, 70
Jamaica, 1,075
Kingston, Jam., 1,250
Kurrachee, 753 6
Lisbon, 30
Macassar, 500
Manaos, 1,230
Mauritius, 66
Montego Bay, 73
Mumford, 75
Naples, 1
N. Orleans, 300
New York, 1,100 63 1 ck.
Para, 400
Patras, 10 pkg.
Quitta, 50
Rangoon, 1,150
St. Nazaire, 50
St. Thomas W.I., 1,450
Shanghai, 3,208
Sinoe, 10
Sierra Leone, 320
Toronto, 3
Calcutta, 120
Colombo, 4
Elmina, 53
Geneva, 120
Gibraltar, 162
Las Palmas, 340
Loango, 17
Madras, 2
Manila, 1
Montreal, 200
Piræus, 25 bdls.
Pt. Natal, 50
Pt. Said, 30
Salt Pond, 10
San Juan, 100
Singapore, 224 1
Teneriffe, 380
Warri, 250

Soda Alkali—
Catania, 35 brls.
Corfu, 75
Leghorn, 75
Messina, 32
Naples, 4
Odessa, 35
Toronto, 70
Venice, 35
Vigo, 20

Soda Ash—
Antwerp, 500 bgs.
Baltimore, 467 585 cks.
Boston, 114 tcs. 1,240 189 50 brls.
B. Ayres, 100 50
Corfu, 100
Fremantle 16
Newport News, 1,690
New York, 3 718 138 200 kgs.
Philadelphia 2,720 119 488 tcs.
Smyrna, 150 brls.
Syra, 220
Calcutta, 32 40
Ceara 6
Chicago, 1,400
Gothenburg, 10
Hamilton, Ont., 200
Leghorn, 50 15
Maranham, 20
Montreal, 50
Patras, 30
Piræus, 95
San Francisco, 40 tcs.
Zante, 100

Soda Crystals—
Boston, 140 brls.
B. Ayres, 20
Calcutta, 27 16 kgs.
St. John's, N.B., 200 90
Singapore, 14
Halifax, 10
Kingston, Jam., 30
Montreal, 20 cks.
New York, 168
Yarmouth, N S, 40

Sodium Biarseniate—
Naples, 2 cks.

Sodium Biborate—
Antwerp, 10 cks.
Havre, 40 cs. 8 brls.

Sodium Bicarbonate—
Barcelona. 25 kgs. 5 brls.
St. John's, N.B., 850
Bombay, 500 20 bgs.
Bourgas, 20
Brentford, Ont., 50 10 cks.
Catania, 50
Galatz, 40
Genoa, 100
Havre, 165 5
Marseilles, 10 4
Mexico, 60
Montreal, 100
Odessa, 300
Oporto, 35
Palermo, 30
Rotterdam, 20 10
Salonica, 20
Seville, 50 5
Yarmouth, N S, 225
Yokohama, 250

Sodium Bichromate—
Porto Alegre, 4 cks.

ım Chlorate—
werp, 32 kgs.
York, 50
erdam, 20
ım Silicate—
ante 35 brls.
elona, 140
bay, 16 cks.
ncia, 15
ım Sulphate—
u, 2 cks.
t Oxide—
kirk, 241 t. 2 c. 3 q. £180
ıtis—
in, 50 t. 1 c. £450
ıur—
on, 400 t. 10 c. £1,549
erara, 7 12 2 q. 41
rphosphate—
tes, 50 t. 3 q. £88
o Rico, 4 18 c. 3 12
xychloride—
alajara, 8 c. £14
entine—
nda, 28 dms.
marine—
hama, 9 brls.
ish—
elona, 2 dms. 12 cks.
la, 5 cs.
e Lead—
on, 4 cks.
Chloride—
bay, 2 t. 13 c. £30

ANCHESTER.

Week ending March 15th.

onia Salts—
erdam, 5 cks.
onium Sulphate—
erdam, 305 bgs.
ıe Colours—
erdam, 2 cs.
icals *(otherwise undescribed)*
erp, 10 cks.
erdam, 20
rs—
erdam, 6 kgs. 2 cs. 4 cks.
ers' Colours—
erdam, 1 ck.
ın Wax—
burg, 3 cs.
m Arseniate—
rt, 10 brls.
m Chlorate—
erdam, 6 kgs.
y—
erdam, 32 cks.
hloride—
erdam, 2 cks.

HULL.

Week ending March 10th.

—
n, 2 cks.
20 50 bls.
nium Sulphate—
irk, 714 bgs.
783
100
ning Powder—
ay, 30 dms.
20 cks.
181
—
ıe, 18 cks
1
c Soda—
ay, 40 dms.
22 cks.
dam, 24
icals *(otherwise undescribed)*
rp, 3 cs.
ay, 1,062 cks. 328 pkgs.
hagen, 60 pks.
ania, 64
burg, 40 10
urg, 4 225 100
4
chee, 100
sberg, 2 7
176 15 120
11 100 pkgs
dam, 25 80
9

Cottonseed Oil—
Antwerp, 129 cwt.
Bremen, 100
Copenhagen, 117
Dusseldorf, 99
Hamburg, 531
Konigsberg, 151
Rotterdam, 2,448
Stettin, 200
Uerdingen, 602
Creosote—
Hamburg, 5 cks.
Dyestuffs *(otherwise undescribed)*
Antwerp, 4 cks. 60 bgs.
Hamburg. 2
Rotterdam, 1
Guano—
Dunkirk. 50 t.
Linseed Oil—
Antwerp, 7 cwt.
Bombay, 624
Bremen, 282
Bergen, 112
Cologne, 75
Copenhagen, 41
Christiansand, 34
Christiania, 391
Drontheim, 46
Hamburg, 143
Hango, 123
Kurrachee, 22
Rotterdam, 100
Naphtha—
Libau, 10 cks.
Ochre—
Hamburg, 18 cks.
Paint—
Bombay, 61 cks.
Copenhagen, 1 cs.
Painters' Colours—
Amsterdam, 1 ck. 21 cs.
Antwerp, 67 cks. 2 18 dms.
Bombay, 102 147 2,767 pkgs.
Copenhagen 3 1 8 dms.
Dunkirk, 5
Gothenburg, 22
Ghent, 33
Hamburg, 15 2 1
Kurrachee, 1
New York, 99
Stettin, 55
Pitch—
Antwerp, 422 t.
Soap—
Christiania, 101 cs.
Tar—
Antwerp, 1 ck.
Bremen, 50 cks.
Bergen, 1
Copenhagen, 10
Gothenburg, 3
Hamburg, 10
Stettin, 5 3 cs.
Varnish—
Amsterdam, 10 cks 1 cs.
Antwerp 9 4 3 dms.
Copenhagen, 3 2 2 cns.
Christiania, 1
Gothenburg, 3
Hamburg, 2
Kurrachee, 1

GLASGOW.

Week ending March 15th.

Ammonium Sulphate—
Trinidad, 26 t. 1¼ c. £341
Demerara, 36 7¼ 502
Venice 9 3½ 135
Bleaching Powder—
Calcutta, 35 t. £460
Boracic Acid—
Japan, 3 t. 17½ c. £83
Caustic Soda—
Sydney, 15 t. 12 c. £195
Coal Products—
Aniline Colours
Boston, £137
Creosote Oil
Russia, 116 t. 6 c. £284
Bordeaux, 228 10 530
Naphtha
Rouen, 30 t. ½ c. £499
Bordeaux, 9 14¼ 130
Pitch
Russia, 23 t. 19½ c. £38
Oporto, 200 290
Amsterdam, 300 420
Rotterdam, 104 99
Bombay, 39 6¼ 87
Boston, 25 5 45
Dunkirk, 650
Bordeaux, 613 5 797
Tar
Russia, 93 t. 9 c. £170
Bombay, 59
Boston, 49 5 104
Calcutta, 123
Coal Tar Products *(otherwise undescribed)*—
Rotterdam, 13 dms. £116
Copperas—
Bombay, 53 t. 2½ c. £189
Cottonseed Oil—
Demerara, 6 t. 14½ c £155
Dyestuffs—
Fustic Extract
Boston, £91
Logwood
Boston, 2 t. 10¾ c. £35
Dyestuffs *(otherwise undescribed)*
Halifax, £23. 12s.
Farina—
Calcutta, 11 t. £114
Guano—
Trinidad, 10 t. £120
Lead Acetate—
Calcutta, 2 t. 6 c. £52
Bombay, 6 £95. 17s.
Linseed Oil—
Straits, 2 t. 3¼ c. £52
Boston, 10 8¼ 219
Litharge—
Boston, 13 t. 7¾ c. £183
Magnesium Sulphate—
Sydney, 9 t. 2¾ c. £75
Manganese—
Rotterdam, 19 c £10
Antwerp, 11 t. 12½ 85
Manure—
New York, 15 t. 11 c. £63
Trinidad, 265 13½ 2,302
Rouen, 10 80
Ochre—
New York, 5 t. 11¾ c. £82
Paint—
Straits, 3 t. 10 c. £45
Japan, 2 15 38
Bombay, £206
Colombo, 4 9½ 56
Painters' Colours—
Sydney, £311
Calcutta, 9 t. 14 c. 95
Paraffin Scale—
Hungary, 1 t. 17¼ c. £36
Paraffin Wax—
Japan, 2 t. 14¾ c. £71
Russia, 3 1½ 70
Oporto, 2¼ 2
Nantes, 18 2½ 466
Phosphate—
Rostock, 500 t.
Potassium Bichromate—
Calcutta, 1 t. 3 c. £32
Japan, 6 7½ 240
Oporto, 3 17½ 154
Rouen, 20 10¾ 814
Boston, 10 19¼ 435
Antwerp, 160 308
Soap—
Demerara, 25 t. £420
Soda Ash—
Straits, 7 t. ¾ c. £36
Sodium Bichromate—
Oporto, 1 t. 15¾ c. £59
Nantes, 4 18¾ 161
Antwerp, 10 1¾ 320
Sulphuric Acid—
Colombo, 6 t. £30
Superphosphate—
Italy, 246 t. 6 c. £875
Trinidad, 14 £45. 10s.
Varnish—
Straits, 75 glns. £32
Sydney, 1 t. 4 c. 64
White Lead—
Sydney, 20 c. 17½ c. £430

TYNE.

Week ending March 10th.

Alkali—
Christiania, 1 t 2 c.
Rotterdam, 1 4
Gothenburg, 5 7
Ammonium Sulphate—
Hamburg, 50 t.
Rotterdam, 25
Dunkirk, 30
Antimony—
Antwerp, 1 t.
Copenhagen, 11 c.
Barium Carbonate—
Hamburg, 5 t.
Barytes—
Dunkirk, 10 t. 3 c.
Bleaching Powder—
Hamburg, 80 t. 13 c.
Christiania, 1
Rotterdam, 40 7
Antwerp, 32 11
Copenhagen, 7 11
Drontheim, 9 19
Oporto, 10
Caustic Soda—
B. Ayres, 2 t.
Christiania, 4 18 c.
San Francisco, 22 10
Rotterdam, 4
Antwerp, 7 5
Malta, 108 12
Gothenburg, 10
Barcelona, 15
Copperas—
Alexandria, 33 t. 2 c.
Litharge—
Gothenburg, 1 t. 8 c.
Hamburg, 1 17
Rotterdam, 2 14
Magnesia—
Hamburg, 1 c.
Rotterdam, 5
Antwerp, 16
Barcelona, 10 t.
Paint—
Bergen, 1 t 12 c.
Rotterdam, 3
Antwerp, 1
Gothenburg, 11
Paraffin Wax—
Copenhagen, 130 t.
Barcelona, 9 4 c.
Soda—
Arendal, 5 t. 4 c.
Christiania, 9 15
Stavanger, 3 11
San Francisco, 5 10
Rotterdam, 20 1
Antwerp, 1 10
Malta, 30 11
Drontheim, 5 3
Svendborg, 33 8
Soda Ash—
Bergen, 5 t. 6 c.
Odense, 13 4
Sodium Silicate—
Bilbao, 11 t. 7 c.
Sulphur—
Christiania, 150 t.
Antwerp, 12 10 c.
Superphosphate—
Hamburg, 200 t. 4 c
Tallow—
Hamburg, 1 t. 16 c.
Turpentine—
Antwerp, 10 glns.
Yarnish—
Antwerp, 3 glns.
White Lead—
Copenhagen, 2 c.

GOOLE.

Week ending March 7th.

Chemicals *(otherwise undescribed)*
Ghent, 1 ck.
Hamburg, 2
Dyestuffs *(otherwise undescribed)*
Boulogne, 1 cs. 1 ck.
Hamburg, 6 cks.
Manure—
Boulogne, 233 bgs.
Dunkirk, 458
Ghent, 500
Hamburg, 266
Pitch—
Antwerp, 722 t.

GRIMSBY.

Week ending March 10th.

Chemicals *(otherwise undescribed)*
Dieppe, 1 cs 3 cks. 126 pkgs. 76 btls.
Hamburg, 10 cs.
Coal Products *(otherwise undes.)*—
Dieppe. 100 cks. 10 brls.
Dyestuffs *(otherwise undescribed)*
Dieppe, 12 cks.

PRICES CURRENT.

WEDNESDAY, March 21st, 1894.

Prepared by Messrs. Higginbottom and Co., 116, Portland Street, Manchester.

The values stated are f.o.r. *at maker's works, or at usual ports of shipment in U.K. The price in different localities may vary.*

	£	s.	d.
Acids:—			
Acetic, 25 % and 40 % .. .. per cwt.	6	9 & 10	9
,, Glacial .. .. ,,		50/-	
Arsenic S.G., 2000° .. .. ,,	0	14	6
Fluoric .. .. per lb.	0	0	3¼
Muriatic (Tower Salts), 30° Tw. .. .. .. per bottle	0	0	10
,, (Cylinder), 30° Tw. .. .. ,,	0	3	0
Nitric 80° Tw. .. .. per lb.	0	0	1¾
Nitrous .. .. ,,	0	0	1¾
Oxalic .. .. nett ,,	0	0	3¼
Phosphoric, 1750° .. .. ,,	0	1	2½
Picric .. .. ,,	0	1	0
Sulphuric (fuming 50 %) .. .. per ton	15	10	0
,, (monohydrate) .. .. ,,	5	10	0
,, (Pyrites, 168°) .. .. ,,	3	0	0
,, ,, 150° .. .. ,,	1	5	0
,, (free from arsenic, 145°) .. .. .. ,,	1	6	0
Sulphurous (solution) S.G. 1025 .. .. .. ,,	3	0	0
Tannic (pure) .. .. per lb.	0	1	1
Tartaric .. .. ,,	0	0	11
Arsenic, white powdered .. .. nett per ton	14	0	0
Alum (loose lump) .. .. ,,	5	2	6
Alumina Sulphate (pure) .. .. ,,	5	0	0
Aluminoferric .. .. ,,	2	10	0
Aluminium .. .. per lb.	0	3	0
Ammonia, Anhydrous .. .. ,,	0	1	3
,, ·880=28° .. .. per lb.	0	0	3
,, =24° .. .. ,,	0	0	2¼
,, Carbonate .. .. nett ,,	0	0	3¼
,, Muriate .. .. per ton	25	0	0
,, ,, (sal-ammoniac) 1st & 2nd .. per cwt.	39/- & 37/-		
,, Nitrate .. .. per ton	44	0	0
,, Phosphate .. .. per lb.	0	0	10½
,, Sulphate (grey) London .. .. .. per ton	14	2	6
,, ,, (grey) Hull .. .. ,,	14	1	3
Aniline Oil (pure) .. .. per lb.	0	0	5¾
Aniline Salt ,, ... ,,	0	0	5½
Antimony .. .. per ton	45	10	0
,, (tartar emetic) .. .. per lb.	0	0	10
,, (golden sulphide) .. .. ,,	0	0	10
Barium Chloride .. .. per ton	6	10	0
,, Carbonate (native) .. .. ,,	3	10	0
,, Sulphate (native levigated) .. .. .. ,,	45/- to 75/-		
Bleaching Powder, 35 % .. .. nett ,,	7	10	0
,, Liquor, 7 % .. .. ,,	3	10	0
Bisulphide of Carbon .. .. ,,	11	15	0
Chromium Acetate (crystal) .. .. per lb.	0	0	6
Calcium Chloride .. .. per ton	2	5	0
China Clay (at Runcorn) in bulk .. .. .. ,,	17/6 to 30/-		
Coal Tar Products and Dyes:—			
Alizarine (artificial) 20 % .. .. .. net per lb.	0	0	8
Magenta .. .. ,,	0	3	9
Anthracene, 30 % A, f.o.b. London .. per unit per cwt.	0	1	1
Benzol, 90 % nominal .. .. .. per gallon	0	1	2½
,, 50/90 ,, ... ,,	0	1	4½
Carbolic Acid (crystallised 40°) .. .. . per lb.	0	0	6¼
,, (crude 60°) .. .. per gallon	0	1	7
Creosote (ordinary) .. .. ,,	0	0	2½
,, (filtered for Lucigen light) .. .. ,,	0	0	3
Crude Naphtha 30 % @ 120° C. .. .. .. ,,	0	0	6¾
Grease Oils, 22° Tw. .. .. per ton	2	5	0
Pitch, f.o.b. Liverpool or Garston .. .. .. ,,	1	7	0
Solvent Naphtha, 90 % at 160° .. .. .. per gallon	0	1	2½
Lucigen" and "Wells Oils .. .. ,,	0	0	2½
Copper .. .. per ton	41	7	6
,, Sulphate .. .. ,,	15	10	0
,, Oxide (copper scales) .. .. ,,	40	0	0
Glycerine (crude) .. .. ,,	15	10	0
,, (distilled S.G. 1250°) .. .. ,,	44	0	0
Iodine .. .. nett, per oz.	0	0	9
Iron Sulphate (copperas) .. .. per ton	1	5	0
,, Sulphide (antimony slag) .. .. ,,	2	0	0
Lead (sheet) for cash .. .. ,,	10	15	0
,, Litharge Flake (ex ship) .. .. ,,	13	0	0
,, Acetate (white ,,) .. .. ,,	25	15	0
,, brown ,,) .. .. ,,	16	10	0
Carbonate (white lead) pure .. .. .. ,,	20	0	0
Nitrate .. .. ,,	20	0	0
Lime, Acetate (brown) .. .. per ton	6	7	6
,, ,, (grey) .. .. ,,	10	5	0
Magnesium (ribbon and wire) .. .. per oz.	0	2	3
,, Chloride (ex ship) .. .. per ton	2	10	0
,, Carbonate .. .. per cwt.	1	17	6
,, Hydrate .. .. per ton.	17	0	0
,, Sulphate (Epsom Salts) .. .. .. per ton	3	0	0
Manganese, Sulphate .. .. ,,	17	15	0
,, Borate .. .. per cwt.	2	12	6
,, Ore, 70 % .. .. per ton	4	5	0
Methylated Spirit, 61° O.P. .. .. per gallon	0	2	2
Naphtha (Wood), Solvent .. .. ,,	0	3	9
,, ,, Miscible, 60° O.P .. .. .. ,,	0	4	9
Oils:—			
Cotton-seed .. .. per ton	21	10	0
Linseed .. .. ,,	21	0	0
Petroleum, Russian .. .. per gallon	0	0	3¼
,, American .. .. ,,	0	0	5¼
Phosphorus (yellow) .. .. per lb.	0	2	2
,, (red) .. .. ,,	0	2	9
Potassium (metal) .. .. per oz.	0	3	7
,, Bichromate .. .. nett per lb.	0	0	4½
,, Carbonate, 90% (ex ship) .. .. .. per ton	16	15	0
,, Chlorate .. .. per lb.	0	0	7½
,, Cyanide, 98% .. .. ,,	0	2	0
,, Hydrate (Caustic Potash) 80/85 % .. per ton	21	15	0
,, ,, (Caustic Potash) 75/80 % .. ,,	20	10	0
,, ,, (Caustic Potash) 70/75 % .. ,,	20	0	0
,, Nitrate (refined) .. .. per cwt.	1	2	6
,, Permanganate .. .. per cwt.	3	2	6
,, Prussiate Yellow .. .. per lb.	0	0	10¾
,, Sulphate, 90 % (ex ship) .. .. .. per ton	9	15	0
,, Muriate, 80 % (do.) .. .. .. ,,	8	5	0
Silver (metal) .. .. per oz.	0	2	3½
,, Nitrate .. .. ,,	0	2	10
Sodium (metal) .. .. per lb.	0	3	4
,, Carb. (refined Soda-ash) 48 % .. nett per ton (F.O.R.)	4	17	6
,, ,, (Caustic Soda-ash) 48 % .. ,, ,, (F.O.R.)	4	2	6
,, ,, (Carb. Soda-ash) 48% .. .. ,, ,, (F.O.R.)	4	0	0
,, ,, (Alkali) 58 % .. .. .. ,, ,, (F.O.R.)	3	10	0
,, ,, (Soda Crystals) .. .. .. ,, ,, (F.O.R.)	2	17	6
,, Acetate (ex-ship) .. .. ,,	14	15	0
,, Arseniate, 45 % .. .. ,,	11	0	0
,, Chlorate .. .. per lb.	0	0	8¾
,, Borate (Borax) .. .. net, per ton.	28	0	0
,, Bichromate .. .. ,, per lb.	0	0	3¼
,, Hydrate (77 % Caustic Soda) (f.o.b.) net pr. ton (10 ton lots)	10	10	0
,, ,, (74 % Caustic Soda) ,, ,, ,, (10 ton lots)	10	5	0
,, ,, (70 % Caustic Soda) ,, ,, ,, (10 ton lots)	9	5	0
,, ,, (60 % Caustic Soda) .. ,, ,, (10 ton lots)	8	5	0
,, ,, (60 % Caustic Soda, cream) (f.o.b.) ,, (10 ton lots)	8	0	0
,, Bicarbonate .. .. ,,	6	12	6
,, Hyposulphite .. .. ,,	5	12	6
,, Manganate, 30% .. .. ,,	16	0	0
,, Nitrate (95 %) ex-ship Liverpool .. .. per cwt.	0	9	10½
,, Nitrite, 98 % .. .. per ton	29	10	0
,, Phosphate .. .. ,,	15	0	0
,, Silicate (glass) .. .. per ton	5	7	6
,, ,, (liquid, 100° Tw.) .. .. .. ,,	4	5	0
,, Stannate, 40 % .. .. per cwt.	3	0	0
,, Sulphate (Salt-cake) .. .. per ton.	0	17	6
,, ,, (Glauber's Salts) .. .. ,,	1	5	0
,, Sulphide .. .. ,,	8	10	0
,, Sulphite .. .. ,,	5	15	0
Strontium Hydrate, 100% .. .. ,,	8	10	0
Sulphocyanide Ammonium, 95 % .. .. per lb.	0	0	7½
,, Barium, 95 % .. .. ,,	0	0	5
,, Potassium .. .. ,,	0	0	7½
Sulphur (Flowers) .. .. per ton.	7	12	6
,, (Roll Brimstone) .. .. ,,	5	15	0
,, Brimstone: Best Quality .. .. .. ,,	4	0	0
Superphosphate of Lime (26%) .. .. ,,	2	7	6
Tallow .. .. ,,	28	0	0
Tin (English Ingots) .. .. ,,	73	0	0
Tin Crystals .. .. per lb.	0	0	6¼
Zinc (Spelter) .. .. per ton	15	15	0
,, Chloride (solution, 96° Tw.) .. .. .. ,,	5	10	0

THE

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Notices.

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CURRENT TOPICS.

EDUCATION GRANTS AND THEIR APPLICATION.

LIKE many similar fads, technical education, after being the rage for a comparatively brief period, has ceased to attract the attention of the majority of people. The amount of money paid to County Councils in the shape of grants for the extension of this class of education is very considerable, so considerable that it might naturally be thought that the methods of disposal would be investigated by those who so largely contribute the necessary funds, solely in their own interests. We have before now emphasised the fact that instead of being devoted to the dissemination of education, these grants are not infrequently employed solely to relieve the rates.

Whether this practice is on the increase, we are hardly in a position to say, but it is interesting to note that Lord Norton intends to move for a return of the various modes of spending these grants, adopted by the several County Councils receiving the same. In the event of this return being obtained, it would be as well to apply the pruning knife in those quarters where only the rates benefit, so that the surplus may be divided among the Councils which are doing their best to make useful and legitimate use of the money. Even in some of those instances where the spread of agricultural education is being undertaken, there would be no harm in revising the methods adopted. At present some of the grants are being spent to little purpose; though not through wilful negligence so much as through the want of experience and the scarcity of efficient instructors. Agricultural Colleges have proved so beneficial up to now that even the simplest instruction in anything like practical agriculture has had to be taken up by outsiders. They have missed one opportunity. Are they going to let another slip? If they will not, or cannot, teach anything but theoretical agriculture, they can surely successfully cope with the task of producing the class of instructors so badly wanted at present. Such teachers must be men possessing a good education, with a thorough knowledge of agricultural chemistry, supplemented with practical experience, and some notion how to teach what they know to others.

THE PROGRESS OF ELECTRICITY.

Though electricity has scarcely satisfactorily established itself in the domain of chemistry as a decomposing agent of commercial value, it has certainly made remarkable commercial progress in other directions. In analytical chemistry the separation of metals has been effected with accuracy, it is true, and the method seems capable of an extended application; but it is in the service of general physics that the most substantial advances have been made. The rapidity with which this new agency of light and power has developed, is by comparison certainly satisfactory, if not somewhat phenomenal. Gas was at one time the wonder of the age, and this modern interloper, electricity, which bid

fair to supersede gas as an illuminant, has undoubtedly done well, for such a youthful combatant, against an antagonist of such formidable strength as the gas industry, both in regard to magnitude and stability. Why there should be such keen rivalry between gas and electricity it is not so easy to explain. The former has open to it a field for which the latter is at present scarcely fitted, apart from the necessity of devoting all its best energies to the extension of its more matured developments. It certainly is greatly to the credit of electricity that it has succeeded in establishing companies for the supply of electricity, many of which have been able to pay dividends. The gas industry had a very uphill struggle in its early days, and it is doubtful if it paid such satisfactory dividends as electricity has done, at an equally early epoch of its existence. But there are other directions in which electricity has truly made remarkably good progress. Long distance telephones are now rapidly growing, while traction has been successfully attempted in the shape of the overhead railway at Liverpool, even if other ventures have only been successful from a scientific point of view. Electricity is by no means a panacea, but it is capable of certain applications, to many of which it has lent itself effectually, and now can show material and rapid progress. For this cause it is worthy of a word of commendation and encouragement, though by indulging in higher flights of self-adulation it will do itself more harm than good, we think.

SHORT WEIGHT IN THE IRON AND STEEL TRADES.

The deputation which waited on Mr. Asquith recently to complain of the irregularities in the weighing of iron and steel in these trades, adduced some interesting and somewhat startling complaints. The practice of weighing the metal after it has gone through certain processes, during which it loses as much as seven-and-a-half, ten, or even fifteen per cent. of its weight, and then paying the men on the lighter weight seems open to abuse. The system of calculating the weight of metal turned out instead of directly weighing it, is also not much more satisfactory. It seems doubtful, however, if the *majority* of the men are in favour of having checkweighmen appointed, presuming that all firms are compelled to weigh the material produced by their employés, on account of the cost of maintaining such a personage; though there is no doubt that in certain quarters the men would be perfectly willing to find the money to pay for a checkweigher. It certainly is not very satisfactory for it to be possible that men who have agreed to be paid according to the weight of metal they turn out, should either not have it weighed at all, or when it is, to be refused access to the weighing machine during that operation, and to the book in which the weights are recorded.

Mr. Asquith seemed slow to believe that such things could be done to any serious extent, and the deputation exonerated certain firms of good repute from any such dishonest actions, maintaining that it was the bad firms they desired to reach, and offering to name privately places where doubtful practices were resorted to. The grounds for the Home Secretary's incredulity are somewhat indefinite. As far as can be seen they depend upon his belief in inherent, human goodness, and honesty. But his emphatic statement of disbelief in regard to the allegations, because he had not heard both sides of the case, would seem to indicate that he had good cause to think the charges could be justly refuted. his is not the case, it seems strange, to say the least, that should confess to his opinion being biased so definitely, and so early on in an inquiry, into what is wi doubt, a matter which involves the reputation of industries, and is of much importance to the employés.

THE PREPARATION OF ALKALINE CHROMA BY ELECTROLYSIS.

THE conversion of chromite of soda into chromate can be e by means of the electric current on submitting a solut chromic oxide in caustic soda to electrolysis, using platinum anode and iron as cathode. The following reaction takes plac

$$\underbrace{Na_2Cr_2O_4 + 5\,NaHO}_{=3\,Na + 3\,H\ (\text{Cathode})} \qquad \underbrace{2\,Na_2CrO_4 + H_2O}_{\text{Anode}}$$

Haussermann in his experiments worked with a current of 2 an and it was found that one hour ampère converted 0·563 grm. chromite into chromate; one hour ampère yielding theoretically grm. of oxygen, which would oxidize 1·336 grms. of $Na_2Cr_2O_4$ acc to the following equation;—

$$Na_2Cr_2O_4 + 2\,NaOH + 3O = 2\,Na_2CrO_4 + H_2O$$

and the electrolytic efficiency will be represented by

$$\frac{100 \times 0{\cdot}563}{1{\cdot}336} = 42 \text{ per cent.}$$

By placing the anode in a solution of 58 grams Na_2CrO_4 litre of water and electrolysing this solution, the resistance was very high, but fell in the course of a quarter of an hour to eight and eventually to six volts, when it remained stationary during t of the experiment. A current of from 2 to 3·5 ampères was used. liquid at the cathode contained 14 grams of caustic soda and 0·4 of monochromate. The liquid at the anode yielded after concen over 40 grams of $Na_2Cr_2O_7 + 2H_2O$ crystals. As in this n the bichromate is obtained with caustic soda as a bye-product (inst sodium sulphate) as in the ordinary method (*C. T. J.* 354, p. it appears that the electrolytic conversion of monochromat bichromate possibly indicates an important step in the progress manufacture of bichromates.—*Zeit. Angw. Chem.*

Agricultural Notes.

THE VALUATION OF MANURES.

A VERY useful guide for purchasers of manures and feeding has just been issued by the Highland and Agricultural Soci the shape of a scale of unit values to be used in determining a fair full instructions and illustrations of how to make the necessary tions being appended. The manures are classified as follows:—

"Fish Guano.—Finely ground, and containing not more than cent. oil. Frey-Bentos Guano.—(*a*) Meat meal, free from horn, ing over 11 per cent. nitrogen. (*b*) Mixed scrap, yielding 6 to cent. nitrogen and 30 to 40 per cent. phosphates. Bone Meal 90 per cent. passing ⅛-inch sieve. (*b*) Coarser. Genuine bone contains 45 per cent. to 55 per cent. phosphates and from 4½ pe to 5½ per cent. ammonia. The better qualities contain little fat. Steamed Bone Flour.—Ground to flour and containing ab per cent. phosphates and about 2 per cent. nitrogen. Dis Bones.—Must be pure—*i.e.*, containing nothing but natural bone sulphuric acid. Dissolved Compounds.—Including 'dissolved manures' and all special manures consisting of ingredients together and dissolved as a whole. The 'average' units shou used in valuing ordinary well-made dissolved compounds. manure is of superior manufacture and of high concentration, the used should be above the average; if of inferior manufacture, or concentration, the units used should be below average. In v such manures for associations the units employed must be spe Mixtures.—To be valued according to the unit values (as given b of the ingredients of which they are guaranteed and also found composed, with an addition of from 5 to 10 per cent., according fineness of their manufacture. Thomas-Slag and Ground Phosp —Fineness of grinding is of paramount importance. The coarses used should be so finely ground that 80 per cent. passes through of 10,000 holes per square inch.

The following table gives the unit values for the present s which are compulsory on all local analytical associations rec grants from the Highland Society, and are based on the present prices at port. When these units are multiplied by the percenta the analysis of a manure, they will produce a value representin

le cash price at which one single ton may be bought in fine ble condition. Larger purchases may be made on more le terms.

UNIT VALUES FOR SEASON 1894.

TO BE VALUED.	GUANOS.		SCRAP MANURES.		
	Ichaboe.	Peruvian (Riddled).	Fish Guano.	Frey-Bentos Guano.	
Classes	Genuine.	Genuine.		*a.*	*b.*
tes Dissolved....	...	...	...	...	...
Undissolved.	2/-	2/-	1/4	1/6	1/4
.....	20/4	21/-	13/6	14/-	12/-
.....	...	3/6	...	...	...
er Ton, From	250/-	225/-	130/-	150/-	120/-
1893. To	270/-	290/-	150/-	180/-	140/-

Meal.	Steamed Bone Flour	Dissolved or Vitriolated Bones	Superphosphates.	Dissolved Compounds		
b.				From to		Average.
..	...	3/-	1/11	2/-	3/-	2/8
1/3	1/6	1/6	..	1/3	1/9	1/6
11/6	13/-	14/-	..	12/-	17/-	13/6
..	...	..	..	3/4	3/8	3/6
112/6	110/-	105/-	26%=50/-	..	..	..
115/-	120/-	120/-	36%=75/-	..	..	..

CONSUMPTION OF MANURE IN SUGAR-BEET CULTIVATION.

iew of the amount of manure consumed by cultivators of sugar France has been made by Mons. Maiziéres in "L'Engrais." Nord region he says it is not uncommon to see as much as cs per hectare spent on manure, and it is seldom if ever in icts where the cultivation is carried on with less success, lower francs per hectare. The French syndicate of sugar proave collected the following particulars :—

	1893.		1892.
Number of hectares sown....	42,060	..	43,289
Tons of beetroots treated	982,093	..	1,103,534
Tons of refined sugar.....	96,498	..	105,818

roduction at the works in the principal departments was :—

	Tons of Refined Sugar. 1893.		1892
Aisne	27,522	..	29,380
Nord	15,766	..	15,733
Oise	14,737	..	16,653
Pas-de-Calais	7,547	..	8,307
Somme	9,846	..	10,534
Other departments	21,080	..	25,211
	96,498	..	105,818

est yield per hectare was in the Nord. From his figures the educes that 125,000 tons of sodium nitrate are consumed in ber year, and of this 20,000 by growers of sugar beets. The tion of superphosphates in the same industry alone amounts to tons.

ield of the crops last year was poor in weight, but the per- of sugar has been high, and in spite of bad times, there is ason for manure manufacturers to expect heavy purchases of manures in the early part of this Spring.

THE CONSUMPTION OF ARTIFICIAL MANURES.

An estimate has been made in the Journal of the American Chemical Society of the World's annual consumption of these fertilizers, which is put at a total of 5,500,000 tons, made up of the following items :—

	Tons.
United States	1,550,000
Germany	1,300,000
France	1,000,000
Great Britain	1,000,000
Belgium and Holland	300,000
Scandinavia	100,000
Spain, Italy, and Austria	250,000

These figures are, necessarily perhaps, only approximate, but with regard to the one million tons estimated for this country, it is discoverable from another source that the quantity of manures imported into the United Kingdom in the three years ended 1891 averaged 600,000 tons annually, so that a considerable quantity for home consumption must have been supplied within the kingdom itself, in the shape of waste from gas works and chemical manufactures. Amongst commercial manures would be included guanos, nitrate of soda, sulphate of ammonia, potash salts, basic slag, and other mineral phosphates, together with additional sources of phosphatic fertilizers.

A hope has long been cherished by English wheat-growers that as the necessity for applying manures to North American lands becomes more pressing the cost of wheat-growing will have a prohibitive influence upon the export of the bread cereal to this country. Apart from the possibility that before such a time arrives the wheat-exporting capacity of Argentina, and even of South Africa, will have greatly developed, it will nevertheless surprise many people to learn that in the United States the consumption of artificial manures is already half as large again as it is in the United Kingdom. On the other hand, there cannot be much doubt that the quantity of farmyard manure put upon the land is, in an ordinary year, much less in the United States than in this country. It appears that the consumption of commercial manures has grown very rapidly in the last 20 years in the Atlantic, and especially in the South Atlantic States. Their use, moreover, is steadily on the increase in the Central and Gulf States, and they are gradually passing into consumption in the less remote and more thickly populated of the Western States.

EXPORTS OF ALKALI AND BLEACH.

THE following figures, which are taken from the official foreign and colonial statistics of the United Kingdom, give the amount and value of alkali and bleaching materials shipped to the undermentioned countries during the month of February, 1894, as compared with the same month of 1893 :—

ALKALI.

Port.	1893.	1894.	1893.	1894.
	Cwts.	Cwts.	£	£
Russia	10,802	11,272	4,459	4,303
Sweden and Norway	7,919	6,474	2,006	1,532
Germany	1,132	4,377	454	1,606
Holland	10,528	10,926	2,972	1,940
France	3,841	5,226	1,742	2,029
Spain and Canaries	20,696	26,062	9,010	12,212
Italy	15,234	13,641	5,586	4,470
United States	333,428	257,561	105,270	65,078
Australasia	12,136	18,367	4,357	6,597
British North America ..	7,067	3,940	2,196	1,269
Other countries	70,145	71,912	26,632	25,916
Total	492,928	429,758	164,684	126,952

BLEACHING POWDER, ETC.

Port.	1893.	1894.	1893.	1894.
	Cwts.	Cwts.	£	£
United States	79,328	52,764	33,856	21,263
Other countries	33,168	24,473	12,720	9,192
Total	112,496	77,237	46,576	30,455

EXPLOSION OF BENZOLINE IN A SEWER.—A singular explosion occurred at Seacombe, near Birkenhead, recently, seriously injuring four men. It seems that owing to a landslip at the works of the Liverpool Oil Storage Company's depôt, a number of barrels of benzoline were broken, and the oil ran into the main sewer. The men were standing near a grid in the vicinity when one of them struck a match to light his pipe, and an explosion occurred of sufficient violence to damage some adjoining buildings.

Paper-Makers' Column.

BASIC SULPHATE OF ALUMINA.

ACCORDING to a Paper read by Mr. W. C. Ferguson, before the American Chemical Society, many samples of commercial sulphate of alumina contain more or less of an excess of alumina over that required to form the normal sulphate ($Al_2(SO_4)_3$), the amount varying from a trace to 2½ per cent. and occasionally even more.

The following composition is of frequent occurrence :—

Total soluble alumina=17·00 per cent.; soluble alumina calculated from sulphuric anhydride (SO_3) to form $Al_2(SO_4)_3$=15·2 per cent., leaving 1·8 per cent of alumina in excess of that required to form the normal sulphate.

It is concerning the probable chemical constitution of this alumina in excess of that required to form the normal sulphate, together with its behaviour towards resin soap in the manufacture of paper, that this brief article is written.

As is well known, in sizing paper, sulphate of alumina is made to react on resin soap (made by saturating soda ash with resin), thus precipitating an insoluble alumina soap, a resinate of alumina in the fibre of the paper.

In many paper works the per cent of normal sulphate $Al_2(SO_4)_3$ determines the strength of the material bought and, other things being favourable, that is preferred which contains the highest per cent. of $Al_2(SO_4)_3$.

A number of reports from paper mills are about as follows :—

Combined Al_2O_3=15·20=$Al_2(SO_4)_3$=50·96
Free Al_2O_3 = 1·80, or

$Al_2(SO_4)_3$ =50·96
Al_2O_3 = 1·80

In such reports the "combined" Al_2O_3 and also the $Al_2(SO_4)_3$ are calculated from the SO_3 present and the soluble so-clalled "free" Al_2O_3 is ignored as being of no value for sizing purposes. This idea that has so little, if anything, to support it, is discussed below.

A solution of normal sulphate of alumina behaves very much like an acid ; it combines with bases, evolves hydrogen with metals, and is acid to litmus paper. We should, therefore, expect SO_3 to combine with more alumina than is represented by the normal sulphate, and it might be added that as weak bases have the characteristic of forming basic salts, we should for this reason also anticipate the formation of basic sulphates of alumina. These basic sulphates can readily be formed in the laboratory from the normal sulphate.

1. By dissolving alumina in the normal sulphate.

2. By action of caustic alkalies on a solution of the normal sulphate. $Al_2(SO_4)_3+Na_2O=Al_2O_3(SO_3)_2+Na_2SO_4$.

For example : A solution of normal sulphate of alumina containing seven per cent. of alumina can be made two per cent. basic by adding caustic soda slowly to a hot solution until a precipitate forms that does not dissolve even on long boiling. This is equivalent in a seventeen per cent. material to having 4·86 per cent. in excess of that required to form $Al_2(SO_4)_3$.

3. By action of a metal, $Al_2(SO_4)_3+Zn+H_2O=ZnSO_4+Al_2O_3(SO_3)_2+H_2$.

These equations are only intended to illustrate the probable types of reaction ; it is not assumed that just such compounds are formed.

The following standard works treat of a number of basic sulphates of alumina that are soluble in water : "Watts' Dictionary of Chemistry," "Roscoe and Schorlemmer's Chemistry," "Mendelejeff's Principles of Chemistry." A careful search through the literature fails to reveal any reference to "free" alumina existing in a solution of normal sulphate.

The term "free" implies the reverse of combined, and from the considerations given above it is not deemed best to call the alumina contents in excess of that required to form normal sulphate "free," with every condition favouring combination. Such alumina is undoubtedly combined as basic sulphate, and being in solution there is every reason to believe that it would form a resinate of alumina with resin soap as readily as the normal sulphate, and some ground for the assumption that it might be even more available because it is probably held in weaker combination and so would be more readily decomposed and precipitated as size ; and if this were true such basic alumina would be more valuable than the normal because more would be precipitated by a given weight of resin soap. With these considerations in mind the following investigations were carried out in the laboratory. In order to observe the action of resin soap on a solution in which the alumina approaches nearest to the free state some aluminate of soda was prepared by dissolving alumina in caustic soda. In this solution alumina is so feebly held in combination that the weakest acids, such as carbonic, will replace it. The solution is basic, and alkaline to test paper.

Resin soap immediately precipitates a voluminous precip resinate of alumina. Even upon the addition of a drop or two soap the precipitate begins to form.

A comparison of a neutral sulphate containing 17 per cent. alumina and of a basic sulphate containing 17 per cent. total alumina, 15 per cent. being normal and two per cent being ba so-called "free") were each treated with an equal amount soap in such quantity that but a portion of the alumina wa pitated. The solutions were filtered and precipitates washe equal amounts of water and ignited. It was found that und conditions

4·40 grams were precipitated from the neutral solutior
6·98 grams were precipitated from the basic solution.

These results are what theory would anticipate.

A brief summary of the case is this : It would seem that the "free" soluble alumina in the basic sulphate of alumina of con such alumina is in direct combination as basic sulphate, and bei feebly held in combination than alumina combined as normal s more readily forms size with resin soap and is therefor economical, less resin soap being required for a given weight phate. It directly follows from this that in any sulphate of the $Al_2(SO_4)_3$ should be calculated from the total soluble alumi *not* from that combined as normal sulphate alone, as in the lat the most valuable alumina content is ignored as being useles following example will serve to illustrate the difference in valu on the two types of analyses : In a sulphate of alumina analysi

Total soluble alumina .....17·00 per cent
Alumina combined as normal .....15·20 ,,
Basic alumina=so-called "free" ..... 1·80 ,,

The $Al_2(SO_4)_3$ calculated from 15·20 per cent. of alumina equa per cent., whereas if calculated from 17·00 per cent., the A equals 57·00 per cent. In conjunction with these figures it borne in mind that experiment proves the basic sulphate of alu be relatively even more efficient than the difference in the abov pretations of the analysis indicate.

THE CARRIAGE OF PETROLEUM.

THE appeal against the judgment delivered in March last the action brought by British shipowners against the Suc Company on the ground of the illegality of according the transit to petroleum through the canal in tank steamships, come hearing before the Cairo mixed Court of Appeal early next An able advocate has been retained as counsel for the plaintiffs case is of considerable importance, because British and interests are directly involved. The tin industries of Engla suffer if petroleum is allowed to pass in tank, while Russia is a further facilities being given for the carriage of petroleum to East in British vessels. Russia objects also to the Suez Canal C making registration at Lloyd's compulsory, while excluding th of other countries. The company defend the action on the grou the territorial rights of Egypt demand that she be consulted o tions relating to the canal, and on the danger to life and p accruing if the task system should become general. Very fe steamships have passed through the canal since the issue of t pany's new regulations in January, 1893.

THE STATE OF THE CHEMICAL TRADE

IN the Tyne and Wear Districts the chemical industries are a fairly good employment. Paper factories especially are At Widnes and St. Helens there is little change in the chemica The short period of activity noticeable after the settlement of t dispute has given way to a period of dulness, although towards of the month there were signs of improvement. At present siderable number of chemical workers are idle in St. Helens a trict. The glass industries are still very dull. The paper ar works at Barrow-in-Furness are still busy. At Hull and distr seed crushing, oil, varnish and colour industries are doing fairl Employment in the oil mills has not been quite so good. Som have been very busy, and have been producing oil and cake fullest extent of their capabilities. Some have had short stoppa are again in full operation. One of the largest mills in Hull ha altogether, throwing upwards of 100 men out of employment, is very unusual at this season of the year. The improvemen paint and colour trade has been fully maintained. Chemical in Derbyshire are slack just now. In the Cardiff district, howe employment in chemical works is tolerably steady.

SANITARY INSPECTION.

nnual address to the Sanitary Institute, the President, Dr. A. ter Blythe, speaking on "The Education of Sanitary In- " said he considered that there ought to be an extension of the education inaugurated by the Institute in the way of technical or some of the posts connected with the inspection of factories, reed with the present system of appointing these inspectors iage, there being many grades in the office, some of which filled by men in the sanitary service. To facilitate this he o see a course of special instruction initiated with regard to and workshops. Something of this kind had been commenced lmirable series of lectures in industrial hygiene, given last ut these had been too few in number and too restricted. He ith approval on the appointment of lady sanitary inspectors. s there were milliners' establishments, requiring supervision, employing female labour, underground sanitary conveniences n, and infant crèches, their services could be utilised; but he d the training should be equally severe with those for male ents, and that they should pass a qualifying examination. The had already granted a certificate to ten ladies, and students of were increasing in number. In regard to practical work, Dr. ew a distinction between two classes of nuisances—the one not causing injury to health, and the other serious. If a hnical nuisance existed in a house, such, for instance, as anting a cover, he disapproved of official action, considering came under the head of fussy sanitation. He prayed that it be saved from fussy sanitation. It was in the air at the me, and if every little thing was to be officially controlled, inspectors would become greater nuisances than those they ed upon to abate. Having indicated a scheme of self-educa- he guidance of students who wished to devote themselves to of hygiene, the lecturer concluded by a reference to the osition of the Certificated Society.

W OF THE FRENCH MANURE TRADE IN 1893.

. MAIZIERES, writing in the *L'Engrais* of the manure ade of France during the last year, states that the yea been remarkable for any incidents of exceptional im- No startling discoveries, affecting the principles of fer- have been made. The prices of manure have been firm, with the exception of sulphate of ammonia and eous organic manures, which have experienced consider- ration. Otherwise there has been nothing very surprising buyers or sellers. The most important feature revealed tatistics of the consumption of the principal fertilizers is th which has taken place in the consumption of phosphatic while nitrogenous manures have remained stationary. consumption of sodium nitrate has been less during 1892 than during the two previous years. The use of this manure has been over done in certain agricultural dis- ultivators have, however, returned to a more rational is manure, having seen in nitrate a manure which must judiciously according to the nature of the crop which raised. Consequently it is not to be praised or condemned ccording to the crops produced. Farmers now recognise e a manure which, while containing in a concentrated of the elements essential to cultivation, is unable to pro- full effect unless associated with the other elements essen- the normal growth of plants, particularly phosphoric

atic manures which bring phosphoric acid into the soil in a which it can be readily assimilated have been enjoying an consumption for some years past. This fact does not ly to France, but is equally apparent in Europe and Phosphate meal or Thomas slag has been used on a e scale, and the price of the slag has been increased on of its prodction being limited. The price of super- es, although having become firmer, has not reached the ich it might have attained, as the production has also reased. Owing to the new works which were established xious to work up a connection, prices were accepted but little profit to makers. It is not unlikely, however, mand does not fall off owing to agricultural depression, es will further harden. Such being the case, times will with this industry than they have been of late.

hineral phosphates, thanks to the development of the leposits, have been plentiful in all the markets. Prices have down to such limits, however, that, with few exceptions, se who were fortunate enough to exploit exceptionally sits have been able to work at a profit. Prices, however, have reached the nethermost depth, and an upward movement has taken place during the past few months. This improvement, slight though it is, will, it may be presumed, be accentuated in the immediate future; but only within such reasonable limits as the large production of Europe and America will permit. If the general production were not so extensive, the stoppages entailed by the cyclone in Carolina would no doubt have brought about a material increase in values, owing to the cessation of production. Of all fertilizers sulphate of ammonia has evinced the most striking changes. The sudden increase in prices is attributable to the growth of consumption of this article. Numbers of places have systematically adopted the use of this manure, and in consequence (the production being limited) most unlooked for prices have been attained. This sudden accession of value is due to want of control between production and demand. But prices are controlled, however, in some degree by nitrate of soda, since if prices were too high buyers would be driven to this latter article, on account of its cheapness. At the same time it is necessary to give due attention to the demand which is created by the needs of those who have special cause to employ this manure, and on this account a serious fall in sulphate of ammonia is not likely to take place suddenly.

THE MINING AND METALLURGICAL INDUSTRIES.

SPEAKING recently of the progress of the iron and steel industries during the past 25 years, Professor A. K. Huntington said the progress made had been extraordinary. The members of those industries were no longer working against one another in a very narrow spirit, being afraid to confide their ideas one to another, lest they should give a competitor an advantage. This, the most important point of all, had been brought about, not by a direct movement with that object, but as an indirect result of men putting aside their petty jealousies of one another and combining against a common adversary. In this country mining, for anything except coal, ironstone, and tin ore, had dwindled to such small proportions that it might practically be ignored. and it was mainly in our colonies that the members of the institution were called upon to practice their profession, and it was on materials obtained from our colonies that those metallurgists who stayed at home must practice their art and science. A country might contain great mineral wealth, yet would be as useless as the unirrigated desert of Sahara until it was brought into touch with civilisation by railways and telegraphs. All honour, then, to such men as Cecil Rhodes, who not merely realised the requirements of the times we lived in, but boldly met them. The amount of money expended by Great Britain in mining and the extraction of metals all over the world has been simply stupendous. It might, however, safely be asserted that, in the near future, the Americans would engineer and finance all their more important undertakings themselves; they were doing so to a very great extent already, and the available wealth of their country was increasing very rapidly. They were even now competing with us in the supply of mining and metallurgical plant in our colonies and South America, and the time was coming when, with the development of their shipping, marked signs of which were apparent, we should find ourselves engaged in a hard struggle for the carrying trade of the world. Yet those things need not come to pass if we would hasten to consolidate the Empire, and work together with one aim and object—to remain the greatest Power on earth.

THE GAS SUPPLY OF LONDON.

THE quality of the gas supplied to the City of London for the week ending March 17th, 1894, was good. According to the report of Mr. W. J. Dibdin, chemist and superintendent gas examiner to the London County Council, the tests made at the various testing stations showed no deficiencies in illuminating power. The following figures have been prepared from the report, and show the average composition of the gas calculated on the mean test:—

Company.	No. of districts tested.	Illuminating power (in stand. sperm candles). Mean average.	Sulphur. Grains in 100 cb. ft. Mean average.	Ammonia. Grains in 100 cb. ft. Mean average.	Sulphuretted hydrogen.
Gas Light and Coke Co.	12	16·35	11·56	0·27	Nil.
South Metropolitan Gas Co.	6	16·53	10·90	0·39	Nil.
Commercial Gas Co. .	2	16·50	8·05	0·50	Nil.

The standard gas supplied by these companies should have an illuminating power of 16 sperm candles, and contain not more than 22 grains of sulphur and 4 grains of ammonia per 100 cb. ft. of gas on an average of three days with a pressure of one inch between sunset and midnight, and six-tenths of an inch between midnight and sunset.

MANUFACTURE OF COMPOUNDS OF BARIUM.

AMONG the many compounds of barium which find industrial application, three are especially noteworthy as their manufacture and consumption increase year by year. They are as follows:—

(1) Barium chloride. (2) Barium sulphide. (3) Barium peroxide.

In the following article we will endeavour to give a description of the actual process of manufacture and production of these important compounds.

BARIUM CHLORIDE.

The methods for the preparation of barium chloride may be divided into:—

(*a*) Reduction of barium sulphate with coal in the presence of calcium chloride.

(*b*) Decomposition of barium carbonate (witherite) by muriatic acid.

Of these two methods the first alone can at present engage our attention, as it alone allows of the production of a fine crystallized barium chloride at a low price, while the second would only be practised where a solution of barium chloride is required for the manufacture of "fixed white," or in countries where the chemical industry does not produce calcium chloride as a bye-product.

Let us follow out the manufacture of crystallized barium chloride systematically, according to the three operations:—Furnacing, lixiviation and crystallization.

The following description will give us an idea of the different operations:—

Furnacing.—240-250 kilograms (kgms.) of finely-powdered heavy spar containing 93-95 p.c. $BaSO_4$, 160-170 kgms. of Calcium Chloride containing 70-75 p.c. $CaCl_2$ and 85-90 kgms. of powdered coal are weighed out and very intimately mixed. The furnace has two doors, one for the reception of the charge and the other for drawing; through the one at the back the new charge is introduced, while the previous charge, after being heated for two hours, is worked forward to the other end by means of long iron rakes, where by means of a specially designed shovel it is turned over at frequent intervals, this being done thoroughly, that the reaction may as far as possible attain completion.

The reaction may be expressed by two equations:

$$BaSO_4 + 4C = BaS + 4CO$$
$$BaS + CaCl_2 = BaCl_2 + CaS$$

In practice it is reckoned that a charge will be finished in two hours. This makes five charges per shift of the German working day, the remaining two hours being consumed in feeding the furnace and also in the withdrawal of the finished charge, etc.

Instead of solid calcium chloride, a few manufacturers use the mother liquors derived from the preparation of potassium chlorate. These liquors, which on an average show 40° B., and whose percentage value is known, are measured off in iron cans and mixed up in pans with heavy spar and coal into a thick paste, finally being introduced into the hinder part of the furnace. Necessarily much of the heat is absorbed by the water which the mixture contains, so that instead of 5, only 4 melts can be worked up. And again in this case, only one charge at a time can be dealt with in the furnace, as the whole mass very soon after its introduction spreads over its bed.

When a charge is finished, it is conducted by means of a shoot directly into a conical iron tank and carried away in order to lixiviate. The resulting mass is almost black, and presents a grey fracture. The best evidence of a good production would be as follows:—The fracture must be of a moderately grey colour, and the coal must not be thoroughly burnt up. If no coal is to be found in the mass it must be considered as a sure sign that the reaction had not been completed. The fracture must show an homogeneous structure right up to its edges. If the edge is not porous it may be fairly reckoned that it will be very difficult to completely lixiviate the mass. The fracture must not show any white particles, as the presence of such denote undecomposed heavy spar, and will thus cause a deficiency in the first product.

In a charge rightly proportioned and well worked up there is always a high percentage of barium chloride combined with great ease and rapidity in its lixiviation. Thus it will have the following composition: 59-60 per cent. $BaCl_2$ and from 0·05-0·1 of sulphur.

A too high percentage of sulphur in the finished product can be counteracted by an increased addition of calcium chloride, or through a decrease in the quantity of powdered coal.

Under all circumstances, one must continually watch that the percentage of sulphur be reduced to a minimum, as the barium chloride will be the better in colour the freer the solution is from sulphur.

Lixiviation.—In most works the lixiviation is performed in iron vats 3×3×1·5 metres, and of which five or six go to a set. They are very similar to those devised by Shank, in that they have perforations through the lower plate to act as strainers. Twenty-eight to thirty of the melts are broken up in pieces not larger than six to eight inches in diameter, and thrown into one of those vats, entirely filling it. Hot water is then run in, hot steam injected to bring the liquor up to the boiling point, this operation being continued fo time. The liquor is then allowed to run out at the bottom t the perforations into a tank below. Such strained liquors, as show a gravity of from 30° to 31°B. While the liquor is runni a tap situated above each vat is turned on and water run in, so fairly constant level is maintained. When the liquor runni below has been reduced to 24°—25°B, the flow of water, and a exit of the liquor below, is discontinued. Any liquors obtained further addition of water to the residue have specific gravities from 24°—0°B, and are directed off into other tanks arrang their reception. During the formation of these weaker liqu solid residue is stirred up with an iron rod to break up any lum may remain. This must be performed as completely as pos reduce the loss of barium chloride to a minimum. If no lum the weak liquors, formed in contact with the residue, are run off second reservoir, and the vat again filled up with water. This brought up to boiling point with steam, the operation being re several times. These latter operations may be made continu allowing the water entering and the liquor leaving to have th volume whilst the steam is constantly blowing in Such will have strength no greater than 1°—0° B. Such values havin obtained, the residue is tested for barium chloride, and if there than from 0·5 to 0·4 per cent., the operation may be consid finished. The liquors of 24° B. and downwards are added ins water to the new melts.

Crystallization.—The strong liquors of 20°B. and upwards afte allowed to settle in the iron tanks, are pumped by means of in into a reservoir which may be situated above them, and in wh first purification is conducted. This is done by passing a str carbonic acid and steam through it. The carbonic acid necess this operation is best obtained from lime kilns. The operation o ing these gases through continues for some time. Portions ar time to time filtered and tested with basic acetate of lead. Wh reagent no longer produces a brown colouration, the steam ar bonic acid should be stopped. Two hours serve generally for s operation. The liquor is thereupon allowed to remain at r several hours in a settling tank, so that the calcium carbonat settle down, after which the liquor is ready for evaporation.

The evaporation is conducted in iron pans The solution is n ised with hydrochloric acid, poured in with a ladle, and in manner that the surface alone is disturbed. The liquor is then rated till it reaches about 30° B, a strength at which a crystalli begins to form on the surface.

The crystallisation of the liquor is performed in iron pans place row, being filled with the requisite quantity of the strong solution avoid contamination with any iron, which colours the crystal strongly, the evaporating pan and other apparatus connected wi operation of crystallization must be covered with a thick la enamel. The crystals of barium chloride are spread out to d packed in casks or bags.

The mother liquor is drawn off or pumped into a settling tank with some fresh liquor and again evaporated to the point of cryst tion.

In this way an accumulation of chloride of calcium occurs strength is reached at which it must be removed, or else on keep stock the crystals of barium chloride become yellow. Thus the chloride of calcium reaches the quantity of about 200 grams litre, it is concentrated by itself.

The barium chloride as obtained above is then added to the s not of a yellow colour, or can be purified by re-crystallization

The mother liquor rich in calcium chloride can be mixed fron to time with the charges about to be introduced into the furnac creasing proportionately the addition of solid calcium chloride.

If the crystallized product is not the modification desired rather the calcined barium chloride, the liquor after being evap in the ordinary manner to the point of crystallization, is run i Thelen's pan. These pans are directly heated and a reel is p which sucks up mechanically fine crystals of barium chloride a liquor gets stronger and stronger. Finally, the barium chloride, ever damp it may be, is dried quickly in a calcining furnace frequent stirring by means of an iron tool, and subsequently p into barrels. It contains about 95 per cent. of anhydrous BaC rest being $CaCl_2$ and H_2O.

(*To be Continued.*)

The Bracher-Patents' Manufacturing Company.—We that Mr. Bracher, having disposed of his London business kno J. A. Gilbert and Co, will, in future, carry on the business in c tion with his specialities as a separate concern, under the style company which constitutes the heading of this notice. This co only has any authority to manufacture the specialities with whic P. H. Bracher's name is well known, the address of the company 169, Mare-street, Hackney, London, E.

ANSWERS TO CORRESPONDENTS.

B.—Yes; we are always willing to do so under ordinary circumstances.
Thanks for your communication duly received.
It can be used for either. It is certainly not more injurious than many of preparations sold for the same purpose.
eir very names should tell you that. There are lists of such prefixes in o-t any good dictionary. An hour spent in consulting such a list would bably enlighten you on many points.
ND.—No; 19 948 marks were put to the Reserve Fund.
BER.—Yes, but we have not space for all. It was ten per cent.
It would not require a great effort to total the individual items. For your nediate purpose, however, we do not mind informing you that they are up ow considerably less—to the extent of over four figures.

e Ship Canal & Chemical Trade.

A CARGO OF ALUM CLAY.

ONG the vessels which have arrived at Salford Docks during he week there has been the *Trieste* from Genoa, *viâ* Liverpool, g a cargo of alum clay. The schooner *Lily Park* also brought from Portsmouth.

A RECORD PASSAGE.

steamship *Edith Hough*, of the Hough Line, Liverpool, trading n London, Southampton, and Manchester, has made a record from Eastham to Manchester on the Ship Canal. She accom- the journey in the quick time of five hours and a quarter, which est yet done The entire passage from London to Manchester de in the exceedingly good time of 70 hours and 15 minutes.

TIPS FOR TRADERS.

GO grows wild in certain districts of Uruguay, and a lead mine n discovered in the department of Minas.

STONE is also abundant in the same district.

M, asphalte, and gypsum have been found in the same Republic.

C STEEL, which is so largely manufactured by the Thomas- t process, has been produced in greater quantities during the ar than ever before, the total production for the past year having 587,615 tons.

PHATE MEAL made from the slag obtained in the above process ing in use as a manure on account of the 36 per cent. of phos- f lime which it contains. Last year 863,000 tons are reported g produced, nearly all of which was ground and sold as a r.

MINIUM is being introduced into lithography as a substitute for inary lithographic stone. Plates of the same metal have also ed in lieu of steel for engraving purposes.

TARIFF CHANGES.

NISHES AND POLISH are under the recent changes in the Nor- tariff subject to a duty of 2s. 7½d. per kilogram (tare).
ER AND NAPHTHA under the same tariff, are subject to a duty of kilogram.
HYLATED SPIRIT is also dutiable at 1½d. per litre (1·76 pints.)

ANUT BUTTER, or the grease manufactured from the cocoanut, oanut oil having the consistency and appearance of cocoanut re exempt from duty on importation into the United States as

E COCAINE is dutiable at 25 per cent.

under the new Customs Tariff of Grenada is subject to a duty r 100lbs.
E and SPERM OILS are dutiable at 1s. per gallon.
SENE has a duty of 2½d. per gallon levied upon it.
URE under the same tariff is exempt from duty.

POST-OFFICE CHANGES.

Inter-Colonial Packet Service between Australia and Canada dditional opportunities of communication with the Hawaiian ch) and Fiji Islands, and with Australia itself. The packets thly between Vancouver and Sydney, touching at Honolulu a.

ESTIMATING NICKEL IN STEEL.

By J. WESTESSON.

THE desirability of being able to determine nickel in steel by means of a shorter process than the one now mostly in use, gave me cause some time ago, when a number of samples from nickel-steel plates were submitted for analysis to the ordnance laboratory, and when the tediousness of the said process became particularly apparent, to make some investigations in order to find a more direct method, and I shall beg permission to mention in a few words what my trials led to.

In the process above mentioned, the nickel is precipitated by means of hydrogen sulphide in the acetate solution, obtained by separating iron from nickel; the sulphide is filtered off, dried, ignited, dissolved in aqua regia and converted into the double sulphate with ammonia in order to obtain a suitable solution for electrolysis.

It occurred to me that there ought to be some way by which the nickel could be electrolytically precipitated *directly* in the acetate solution, and thus that part of the procedure, embracing the precipitation with hydrogen sulphide, entirely eliminated. If this could be done, it is evident that there would be quite a saving of time, besides doing away with an unpleasant feature of the method. It became, therefore, my aim to simplify the old method in this peculiar part.

Now, as the presence of chlorides will prevent the electrolysis of nickel, and as the separation of the iron from nickel always had taken place in a chloride solution, I decided to bring my original solution into the shape of sulphates, and then proceed on the old lines. After having made a number of more or less successful trials, I finally came to the conclusion that the following method would answer the purpose very well:

One gram of the sample is dissolved in twenty cc of sulphuric acid of 1·16 sp. gr., and the solution kept boiling for some time, whereupon five cc. of weak nitric acid is added in small portions. The solution is now evaporated until all the nitric acid is expelled, allowed to cool, water added and heated until clear. Neutralization with carbonate of soda is done in the usual way, but care should be taken not to carry it too close to the point of neutralization. Add water so as to make the bulk 375-400 cc. and precipitate with acetate of soda; filter into a casserole and evaporate the filtrate over a moderate flame; redissolve the ferric precipitate and repeat the precipitation twice, taking care not to make the bulk more than 400 cc. each time, and adding each filtrate to the first one. When the filtrates have been evaporated down to 400 cc., add ten cc. of concentrated ammonia and boil for a few minutes. The manganese will then settle out, evidently as H_2O_2MnO, and is filtered off, whereupon the filtrate is ready for electrolysis. If the ammonia should be added to the concentrated filtrates, when *cold*, the manganese will not separate out, but will interfere considerably with the electrolysis later; it will in that case not only settle out at the anode, but will in fact contaminate the nickel on the cathode, not as loosely settled dioxide, but alloyed with the nickel. When, on the other hand, the manganese is precipitated by ammonia in the hot solution, the nickel is to a small extent carried along with the manganese, but I have in all my experiments never found the nickel, lost in that way, amount to more than one to one-and-a-half per cent. of the amount of nickel present in the steel.

How this modification of the old process compares with the original a few results will show.

In a nickel-steel, containing 3·50 per cent. nickel, determined by the old process, the amount found by the modified process in five different analyses was: 3·42 per cent.—3·51 per cent.—3·48 per cent.—3·51 per cent.—3·43 per cent, and in another steel containing 0·19 per cent., the following amounts were found: 0·18 per cent.—0·19 per cent.—0·19 per cent.

The time necessary for analyses of this kind I have found to be about eight hours. Thus, if the analysis is commenced at 8 a.m., the solution will be ready for electrolysis at twelve o'clock, or before; with seven or eight Grove cells in good condition the analysis should be concluded at 4 p.m. I have invariably commenced at noon and left my cylinder over night on four Grove cells, the separation of iron from nickel being completed about four o'clock, or sometimes a little later.

IMPORTATION OF PETROLEUM AT SHANGHAI.—The Customs authorities have withdrawn their objections to the landing of petroleum in bulk at Shanghai, and the first petroleum steamer, the arrival of which was announced last week in these pages, is now unloading its cargo.

THE COST OF THE HOME OFFICE INQUIRIES.—Between two and three thousand pounds have been spent in the conduct of the Home Office inquiries into dangerous industries. A goodly result has been obtained for the money. It remains to be seen what return will be given for the tens of thousands which the Labour Commission is swallowing up.

DANGEROUS EMPLOYMENTS AND HOURS OF LABOUR.

RECENTLY, Mr. Asquith met a deputation from the Staffordshire and Yorkshire districts in support of the adoption of the new rules proposed and issued by the Home Office.

Mr. Asquith, following up the policy he has pursued since he came into office as Home Secretary, may be expected shortly to introduce a fresh series of administrative reforms in various departments under the control of the Home Office. The recent additions to the staff of factory inspectors is likely to be supplemented by the appointment of further inspectors, male and female, and also of more inspectors' assistants. These assistants, who will number fifteen, are intended to be active men of practical knowledge and experience. One of their special functions is to follow up the lists of outworkers which are now required to be kept by the manufacturers of all kinds of wearing apparel, files, and electro-plated goods. It is hoped in this way to check and prevent some of the worst evils of the sweating system. The bulk of the present assistants are now engaged in London, where they have been placed under the charge of Mr. Lakeman, one of the most experienced of Her Majesty's inspectors, who has been specially detached for this purpose. In addition to the offices in Central London, Glasgow, Birmingham, and Leeds, which are designed to be the recognised centres of factory inspection in their respective districts, where all concerned, whether employers or employed, can call to give or ask for information, it is said to be proposed during the present year to provide additional offices for the like purpose at Manchester, Liverpool, Blackburn, Sheffield, Newcastle, Nottingham, Norwich, Bristol, Southampton, Plymouth, Swansea, Edinburgh, Dundee, and Belfast. In addition to the special rules already issued for various industries which are more or less dangerous to health, based upon the reports of special committees consisting of inspectors, medical men, chemical and other experts, it is found that further legislation is necessary to give full effect to some of the recommendations contained in certain of these reports. In this connection the Home Secretary will probably seek to amend the Factory Acts and to deal with unreasonably long hours of labour in unhealthy industries; also to place open quarries, as well as underground quarries, under the supervision of inspectors of mines. Two or three additional inspectors will be appointed in that department. The most recent steps taken by the right hon. gentleman on the lines indicated are (1) the institution of exhaustive inquiries in respect of laundries, the linen industries of Belfast, the Merionethshire salt mines, and the Sheffield grinders; (2) the scheduling as occupations dangerous to health of the manufacture of red, orange or yellow lead, lead smelting, the turning and enamelling of iron hollow ware, electric accumulator works, flax mills, and linen factories; (3) the appointment of a committee to consider the subject of statistics relating to factories and workshops and mines and minerals

Trade Notes.

Another River Pollution Prevention Bill.—Sir F. Powell is shortly going to introduce into the House a Bill to make more effectual provision for prevention of the pollution of rivers and streams.

Society of Chemical Industry—*London Section*.—The next meeting of this section will be held on Monday, April 2nd, at Burlington House, at 8 p.m, when Papers will be read by Mr. J. W. Lovibond, on "Colour as a means of Quantitative Estimation." By Mr. W. C. Young, on "The Natural Diminution of the Dissolved Organic Matter in the Water of Rivers;" and by Mr. H. Louis, on "An Improved Specific Gravity Bottle."

Society of Chemical Industry — *Liverpool Section*. — The annual general meeting of this society will be held on Wednesday next, March 4th, at 7-30 p.m., in the Chemical Laboratory of the University College. The business of the meeting will be devoted to the election of the officers for the 1894-95 session. A Paper will also be read by Mr. H. J. Brown, on "The Treatment of Cupreous Iron Pyrites, as carried on at Portuguese Mines." Tea will be served in the museum from 7 to 7-30 p.m.

The Russian Alkali Trade.—Messrs. Tjubimoff, Solvay and Co, who own the largest ammonia-soda works in Russia, have now a second large factory at work at Tisitshansk in addition to the one which has been established for some years at Beresniki. The total output last year reached the large amount of 1,700,000 poods (about 27,321 tons) of soda-ash and 400,000 poods of caustic soda (about 6,428 tons). The English trade shows a decided falling-off owing to this home manufacture, and the recent tariff arrangements with Germany will enable the latter country to compete with England in the remaining business.

The Dispute in the Patent Fuel Trade.—The (Patent Fuel Company have offered to the 400 men locked out per day, with an increase of 6½d. when the coalowners advan wages to 30 per cent. above the standard rate, and a further ad 6½d. when the rate is advanced to 40 per cent.

Utilizing Sulphite Pulp Liquors.—A foreign patent use of sulphite pulp liquors in the preparation of a plastic com for making wall coverings of the nature of the lincrusta etc., by the waste liquors with glue and mixing the resulting gelatin stance with sawdust, calcium sulphate, and sand. Sufficient added to render the mixture plastic.

A Destructive Fire.—On Wednesday afternoon last, a fi out at 28, Wilson-street, Finsbsbury-square, London, in a w tenanted in the basement by printers; and on the ground floo National Fish, Guano, and Oil Company. The flames origi the basement, which was used as a machine-room and store warehouse was saved from total destruction, but serious dam done.

Fatal Explosion in a Foundry.—The death occurred at Blackburn Infirmary of a man named Daniel Dalton, emp the Darwen and Moston Company's Ironworks. The decea passing a furnace the other day when a serious explosion occur end of the furnace and brickwork being blown to pieces, molten metal scattered in all directions. Dalton was buried u *débris*, and so shockingly burnt by the metal that his recov hopeless.

The Wilmslow Sewage Scheme.—The Local Governmer has sanctioned the proposal to borrow £10,000 for the pur sewage works in the northern district of Wilmslow. The W Authority has been compelled to move in consequence of the a the Mersey and Irwell Joint Committee in reference to the poll the River Bollin. This river is in a very bad state. The atte the Joint Committee has also been directed to the river Dea Wilmslow Board has already expended a large sum on sewag in their southern district.

Recovery of Ammonia from Blast Furnaces.—Th garnock Chemical Company, Glengarnock, Ayrshire, whi formed for the purpose of turning to account the waste gases ar bye-products of the Andeer Works of the Glengarnock Iron ar Company, notifies that its works have been completed and t are now in full swing (*vide C. T. J.* 303, p. 164). In the pr manufacture the gas from the blast furnaces is taken into a c tube 8 feet in diameter, then it is drawn through a series of a by powerful exhausting engines for the purpose of cooling the extracting the tar, after which it passes through a number of v then it is forced through four scrubbers of large dimensions, ea four being 115 feet high by 18 feet in diameter. The gas returned to the ironworks in a purified state. The products known value are collected in tanks, from which they are through underground cast-iron mains to the chemical works.

An Old River Pollution Case: The Offenders F Before Judge Lushington, at Aldershot, last week, the Wintney Sanitary Authority sued the Aldershot Local Board of for penalties for non-conformance with an order calling upon abstain from polluting the river Blackwater. The case has bee Judge Lushington on several occasions, although an order to was given so far back as 1886. Since that year his Honour mitted several adjournments to allow the defendant Board themselves of the best means to prevent the pollution of th The Aldershot Local Board have adopted several processes, plaintiff Authority contend that they have not used the bes according to the Rivers Pollution Act, and they asked his to impose penalties for three specific dates—viz, September December 26 and 27, 1893. His Honour decided that on t named the Aldershot Local Board were not availing themselv best and most practical means of obtaining a satisfactory efflu imposed a fine of £20. for each of the specified dates, gi plaintiffs costs.

Market Reports.

MISCELLANEOUS CHEMICAL MARKE

There is no material change in the position of the alkali during the week. Caustic soda is, if anything, a little easier and for certain markets may be bought at rather lower prices. tions nominally, however, subject to usual variations, can be follows: - f.o.b. Tyne, 77%, £10. 7s. 6d.; f.o.b. Liverpoo £10. 2s. 6d.; 70%, £9. 2s. 6d.; 60%, £8. 2s. 6d.; crean £7. 17s. 6d. per ton, 10-ton lots and upwards. Ammonia alka

uoted £3 2s. 6d., bags, makers' works, and £3. 7s. 6d. casks, per ton more f.o.b Liverpool. Soda crystals remain flat, and ichanged. Bleaching powder is in good request, and price is maintained at £7. 10s nett, f.o r. makers' works, and £8. Liverpool. Chlorate of potash still at 7½d. to 7¾d., and of soda 8¾d. per lb. Saltcake is heavily stocked, and price minal. For vitriol and muriatic acids there is a fairly good . Sulphate of copper has a good inquiry, and price is firm at s., f.o.b. Acetates all round are dull, and there are no changes t in prices quoted last week. Carbolic acid crystals are yet any movement, though for this and liquid carbolic acids the f heavy demand is approaching, and a generally firmer tone in the market in anticipation. White powdered arsenic is still commodity, and price firm at £14., nett Garston, etc. For il and salt there is little or no inquiry. Potash, caustic and te, continue in active demand, and prices are firm. Prussiate h steady at 10½d. to 10¾d. There are no indications as yet eneral improvement in the demand for chemicals.

TAR AND AMMONIA PRODUCTS.

rice of 90's benzol is still easier at 1s. 2d., but 50/90's remain eek's value of 1s. 4½d. Solvent naphtha, 90%, keeps steady ½d., while crude naphtha is a fraction lower. Crude carbolic l crystals are both steady with price for 60% crude at 1s. 8d. ons for anthracene remain 30% A 1s. 1d., and B 10d. Pitch is at 27s. to 27s. 6d., f.o.b. East coast, and seems pretty steady.

ate of ammonia has not been greatly affected by the holidays, es have been firm during the week. Inquiries for April are ade, but buyers do not seem at all inclined to pay present prices. sible, therefore, that next month may open with a slight con- n price from sellers. Quotations to-day are rather wide, but e nearest values are :—Beckton £14., London outside makes 3d. to £14. 2s. 6d , Liverpool £14., Hull £14. to £14. 1s. 3d., 14. 3s. 9d. to £14. 5s. Nitrate continues steady at the

WEST OF SCOTLAND CHEMICALS.

GLASGOW, TUESDAY.

to the annual Glasgow spring holiday, which began to have vards the close of the week, and caused a complete shutting up ss yesterday, the market is slightly ungeared ; but this matters ause of the prevailing dulness in chemicals here, a dulness emed rather to increase during the course of last week. Prices, do not as yet give way, and what changes there are go to the these apply only to those special lines which have been on the r some time. Alum is one of these, with a further rise of 5s. of ammona and nitrate of soda are the others, each with con- added firmness since last report, and an advance in obtainable The former now fetches £14 5s. for prompt, nett, f.o.b Leith. usiness were offering for forward delivery probably a shade less taken by the makers. Nitrate of soda is now over 10s. a cwt.

mineral oil and paraffin divisions of the market, things are at, but with values nominally unchanged, except in paraffin phtha) for which sellers are now glad to take 4d a gallon It that preparations are being made for the discharge, in the f imported petroleum from tank-laden steamers. This will be r burden on the home-made oil, already so sorely pressed. ing oils (mineral) are very idle.

prices current are :—Soda crystals £2 5s. nett, Tyne; 48/52° £3. 12s. 6d. to £3. 16s. 3d. nett, Tyne ; white alkali 4. 10s to £5. 5s. nett, Tyne; alum in lump £5. 10s. nett, Glasgow; da, white, 74° £10. 10s., 70/72° £9. 5s , 60/62° £8. 5s., and 0/62° £8., all nett, Liverpool ; bleaching powder £6. 15s. to nett, Tyne ; saltcake, 17s 6d. ; borax, English refined, £30. cic acid, £37. 10s. nett, Glasgow ; bicarbonate of soda, 5-cwt. 5. 10s., and 1 cwt. casks £6. 15s. nett, Liverpool ; bichromate , 4½d. nett, for Scotch and English deliveries (for export, 4¼d. b. Glasgow) ; bichromate of soda, 3¾d. nett, for Scotch and deliveries (for export, 3½d. nett, f o.b. Glasgow) ; chlorate of 7½d. less 5%, Liverpool ; nitrate of soda, 10s. 1½d ; sulphate nia prompt, £14. 5s., nett, f.o.b. Leith ; salammoniac, first nd white, £39 and £37. nett, any port ; sulphate of copper, , less 5% Liverpool ; paraffin scale, hard 1⅞d per lb. ; soft 1⅞d. araffin wax 120° semi-refined 2⅜d. to 2½d.; paraffin spirit), 4d. per gallon ; paraffin oil (burning), standard No. 1 grade, orks, for Scotch buyers (English sales, ½d to ¾d. lower) ; ricating) 865° £3. 12s. 6d. to £3. 17s. 6d. ; 885° £4. to £5., 895° £5. to £6. Week's imports of raw sugar at Greenock 559 bags.

THE METAL MARKETS.

LONDON, WEDNESDAY.—Pig iron, inactive : Scotch warrants closed at 43s. 0½d., Middlesbrough 36s. 1½d. cash, and hematite 45s. 2½d. Copper, easier : Chili bars, G.O.B.'s and G.M.B.'s, closed at £40. 15s. to £41. cash, and £41. 5s. to £41. 10s. three months. Tin, weak : Straits closed at £68. 5s. to £68. 7s. 6d. cash, and £69. 2s. 6d. to £69. 12s 6d. three months ; Australian, £68. 17s. 6d. ; English ingots, £73. to £73. 10s. Lead, easy : Spanish, £9. 5s. ; English, £9. 7s. 6d. Silesian spelter, ordinary, £15. 12s. 6d. to £15. 13s 9d. Nickel, 1s. 8½d. Antimony, £36. *Copper shares*, steady : Cape, 1⅜ to 1½ ; Copiapo, 1¾ to 1⅞ ; Libiola, 3 to 3¼ ; Mason and Barry, 2⅛ to 2⅜ ; Rio Tinto, 15⅜ to 15½ ; Tharsis, 4¾ to 5.

WOLVERHAMPTON, WEDNESDAY.—The market to-day was rather quiet, owing to the holidays. Prices were well sustained on late quotations. Marked bars, £7. 10s ; merchant sections, £6. 5s. ; and common bars, £5. 5s. ; hoops, £6. 5s. to £6. 10s. ; iron sheets (doubles), £6. 10s. ; and galvanised corrugated sheets, £10. 5s. to £10. 10s. Steel barr, £6. 15s. to £7. ; steel plates, £7. ; and billets, £4. 12s. 6d. Pig iron less active : native common, 37s. to 38s. 6d. ; part mine, 44s., and best 55s.

GLASGOW, WEDNESDAY.—Market firm, with fair business. Scotch done at 43s and 43s. 0½d. cash ; also at 43s. 2½d. one month ; closing with buyers at 43s. 0½d. cash, sellers ask 43s 1d. Cleveland closes with buyers at 36s. 1½d. cash, sellers ask 36s. 2½d. Cumberland hematite done at 45s. 2d. cash, closing with buyers at 45s. 2½d. cash, sellers ask 45s. 3d. Middlesbrough hematite closes with buyers at 44s. 2½d. cash, sellers ask 44s. 4½d. Copper done at £41. 2s. 6d. cash, 30th April.

TYNE CHEMICAL REPORT.

TUESDAY.

Chemicals quiet, the holidays interfering with business. Prices generally unaltered. Chlorate of potash rather weaker, and is now quoted at 7½d. per lb.

Bleaching Powder, softs, £7. 10s. per ton, nett ; hards, £7. 15s per ton, nett ; caustic soda, 76/77%, £10. 15s. per ton, nett ; do., 70%, £9. 5s. per ton, nett ; recovered sulphur, 2 cwt. bags, £4. per ton, nett ; soda ash, 48%, £3. 12s 6d. per ton, nett ; do., 52%, £3. 16s. 3d. per ton, nett ; do , 56%, £4. per ton, nett ; alkali, 36%, £2 15s. per ton, nett ; white alkali, 48%, £4. 10s per ton, nett ; do , 50%, £4. 15s. per ton, nett ; do., 52%, £5. 5s. per ton, nett ; hyposulphite of soda, 5-7 cwt. casks, £5. per ton ; do., 1 cwt. kegs, £5. 10s. per ton, nett ; silicate of soda, 75° Tw., £2. 17s. 6d. per ton, nett ; do., 100° Tw., £3. 12s. 6d per ton, nett ; do., 140° Tw., £4. per ton, nett ; soda crystals, casks, £2. 2s. 6d. to £2. 5s. per ton gross weight ; do., 2 cwt. bags, £2. 2s. 6d. to £2. 5s. per ton, nett ; chlorate of potash, 7½d. per lb , less 6% ; pearl hardening, £3. per ton, nett ; pure white sulphate of alumina, £4. 2s. 6d. per ton, nett ; blanc fixe, £7. 10s. per ton, nett ; chloride of barium, £7. 10s. per ton, nett ; carbonate of alumina, £28. 15s. per ton, nett ; aluminate of soda, £33. 15s. per ton, nett ; in 5 ton lots, £28. 10s. per ton, nett.

South Durham Salt firm at 9s. 6d. per ton, f.o.b. Tees, nett.

Coals.—Prices remain about the same. Best Northumbrian steam, 10s. to 10s. 6d. per ton, nett ; small steam, 4s. per ton, nett ; gas coals, 7s 6d. to 8s. per ton, nett ; bunker coal plentiful, at 7s. to 7s. 6d. per ton, nett ; coke firm, at 14s. 6d. to 15s. per ton, nett.

HULL PAINT, OIL, AND COLOUR REPORT.

TUESDAY.

OILS.—The market is of a purely holiday character, many of the principal mills being closed from Thursday to Tuesday and Wednesday, and what little business has been done has been very nominal. Amongst the principal imports into Hull during the past week, as against the same week a year ago, are the following :—Linseed, 18,816 qrs., against 2,962 qrs. Rapeseed, 19,281 qrs , against nil. Cotton seed, 1,488 tons, against 1,709 tons. Oil cakes, 397 tons, against 590 tons. Olive oil, 9 tuns, against 256 tuns. The s.s. *Rocklight* left Philadelphia for Hull, March 9th, with a cargo of mineral oil. Linseed oil quiet and unchanged : 18s. 10½d. spot, buyers at the price up to August ; sellers, 19s. ; last four months, 18s. 3d. naked. Casks 17s. 6d., and ordinary barrels 22s. 6d. per ton extra. Boiled and refined do , from £1. to £2. per ton extra. Cotton oil. unchanged ; crude, 16s. 6d. ; refined, 18s. to 18s. 3d. Rape oil continues cheap, consequently in good demand for its own legitimate uses. Castor oil, 2¼d. per lb. for first pressure. Spirits of

turpentine, 22s. 6d. per cwt. Olive oil from £31. per tun. Cod oil from £17. to £19. per ton. Sod oil from £16. per ton. Pale seal oil, £20. per ton. Brown wool grease, £8. per ton. Engine and cylinder oils from 1s. to 2s. per gallon.

CAKES.—Linseed cakes: The consumption is only moderate, at prices rather favouring buyers: 95 per cent. pure, £8. 5s.; Russian, £7. 10s. to £7. 15s.; Polish, £7. 15s. Oil cakes £6. 19s. 6d. to £7. 2s. 6d. Cotton cakes in fair request. The fact of American oil being about half the price of last year, and English £3 per ton less, is a strong obstacle to much lower prices of cakes: Best makes, spot, £4. 12s. 6d. to £4. 15s.; seconds, £4. 10s. Rape cakes: East India, £4. 10s.; Black Sea, £3. 15s.

PAINTS continue in good demand. Prices are: White lead in oil. £17. 10s. per ton; oxide of zinc paint, £22. per ton; red lead, dry, £13. 10s per ton; Venetian red, dry, from £6. to £10. per ton; oxide of iron, dry, from £9. to £18.; T.C. ochre, 60s. per ton; ready mixed paints from £26. per ton; oak varnish from 5s. 6d. per gallon; common black varnish, £5. 10s. per ton, in barrels.

LIVERPOOL OIL AND COLOUR MARKET.

Wednesday.

OILS.—Owing to the holidays palm oil is very quiet, with practically nothing doing. Olive is in fairly good demand at recent currencies. There is not a great deal doing in linseed; Liverpool makes in export casks remain at 21s. 3d. to 21s. 6d. per cwt. Cotton-seed: Liverpool refined continues steady at 20s. 6d. to 21s. 6d. per cwt. Castor oil is firm, for good seconds Calcutta at 2½d per lb. First pressure French is offered on spot at 2¼d. Tallow is steady, but is quite inactive. Resin is steady, but there is very little doing in all grades. Spirits of turpentine are inclined to be firmer, but 22s. 9d. per cwt. is still the ruling quotation, though 23s. has been reached during the week. Petroleum is dull: American sells at 4¼d. to 5½d. according to quality, and Russian refined 3⅝d. to 3¾d. per gallon.

COLOURS are steady without alteration in prices. Ochres: Oxfordshire, common, £10., medium, £12., best, £15.; Derbyshire, common, 40s.; medium, 50s., best, 60s.; Welsh, best, 70s., seconds, 50s., and common, 18s.; Irish, Devonshire, 40s. to 45s.; French, J.C., 55s. to 60s.; M.C., 65s. to 67s. 6d. Umber: Turkish quiet; Devonshire, 50s. to 55s. White lead, and oxide of zinc unchanged. Venetian red, £6. 10s. to £10. Cobalt: Prepared oxide, 9s. 9d.; black, 9s.; blue, 6s. Zaffres: No. 1, 3s. 6d.; No. 2, 2s. 6d. Oxide of iron: Common, £6.; medium, £10.; finest, £20. Zinc oxide, £23. to £25.

New Companies.

The London Steam Generator and Electrical Power Co., Limited. Capital £600,000. in shares of £1. each. This company has been formed to acquire certain patents and to trade as boiler makers, electricians, etc. The subscribers to the memorandum of association are:—W Cooper, 31, Lombard-street, E.C., secretary; F. J. Baker, 2, Bawtree-road, S.E., secretary; T. H. Lambert, 44, Buckingham Palace Mansions, S.W., director; C. Brown, 91, Halton-road, N., accountant; M. Silliton, 2, Great Ormond-street, W.C., gentleman; J. C. Austen, 31, Waller-road, S.E., accountant; H. E. McCurdle, Stoke Newington, clerk.

Smith, Stone, and Knight, Ltd. Capital, £150,000. in shares of £10. each. This Company has been formed to acquire the works known as the Union Paper Mills, the Birmingham Paper Mills, and the Aston Paper Mills, all at Birmingham, and to carry on the business of paper manufacturers, etc.

The Saltpetre Prospecting Co., Ltd. Capital, £5,0 shares of £1. each This Company has been formed to a mineral lands, and mine for saltpetre, etc.

Messrs. Willans and Robinson, Ltd. Capital, £300,0 £5. shares. This Company has been formed to take over the b now carried on by Willans and Robinson, Ltd., at Thames I Surrey, and to trade as engineers, boiler makers, metallurgists, e

The Somerset Petroleum Wells, Limited Capital £6 in shares of £1. This company has been formed to search fo work petroleum on the Ashwick estate, near Shepton Mallet, trade as oil refiners and distillers. The subscribers to the memor of association are:—J Burnett, Blandford-place, N.W., age Hossack, 61, Gloucester-place W., artist; H. Bush, 61, Glou place, W., mining engineer; A. H. Russell, Forest Hill, S.E., J. Hall, 117, Page-street, S W., mining engineer; W. Jacol Percy-street, W,, advertising agent; R. G. Norman, The N Loughton, gentleman.

The Patent List.

This list is compiled from Official sources in the Man Technical Laboratory, under the immediate supervisio George E. Davis and Alfred R. Davis, who report professi upon the value of Chemical Patents.

APPLICATIONS FOR ENGLISH LETTERS PATEN

Apparatus for Purifying Sewage, etc. E. C. Ives. 5,105. March 12
The Manufacture of Cements E. Bernard. 5,137. March 12.
Manufacture of Plumbates and Plumbic Acid. J Y Johnson. March 12.
Manufacture of Alkaline Bichromates. M. W. Beylikgy. 5,178. M
Improvement in Jet Pumps for raising Acids and Alkalies, e Long and W. H. Burkitt. 5,187. March 13.
Improvements in Liquid Fuel, and Apparatus for using the same E Baron 5,214. March 13.
Improvements in the Production of Soda. R. Campion. 5,237. M
Smoke-Consuming Appliance. A. Allen. 5,261. March 13.
Utilising Spent Iron Pyrites and Apparatus therefor. 5,300. Ma
New Yellow Colouring Matters. E. Knecht and J. Altschul. March 14.
Oxidising Comminuted Lead or Zinc. J. A. Mays. 5,345. March
Process and Apparatus for the Manufacture of White Lead. Mays. 5,347. March 14.
Improved Manufac ure of Feeding Cakes. A. W. Rhenström March 14.
A Fluid for Removing and Preventing Boiler Incrustation Borecki and J Komestik. 5,431. March 15.
Improved Manufacture of Dry Alizarine. O. Imray. 5,444. March
Filtering and Clarifying Media. H. Davril. 5,472. March 15.
Separating Grease or Solid Matters from Waste Waters or Se L. Pickard. 5,496. March 16.
Improved Preparation of Manures D. Blyth. 5,517. March 16
Solutions for the Electric Deposition, Separation, and Refinem Aluminium. J. Kirkwood. 5 579. March 17.
Improvements in Linings for Wood-pulp Digestors. R. Prest T. Thornley. 5,602. March 17.
Fire Proof and Insulating Paint. J. D. Noble. 5,608. March 17.

Gazette Notices.

PARTNERSHIPS DISSOLVED.

J. H. Hampton and O. E. Barnfather, Leeds, drysalters, under the styl Leeds Dyeware Co.

J. Pickering, the elder, H. Pickering, F. Pickering and J. Pickerin younger, soap makers and tallow chandlers, Birmingham. under the s John Pickering and Sons; so far as regards J. Pickering, the elder.

BANKRUPTCY ACTS, 1883 and 1890.

Receiving Order.

Taylor, George, Barking-road, Plaistow, and Freemason's-road, Custom E., oil and colour man.

IMPORTS OF CHEMICAL PRODUCTS

AT

THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending March 17th.

Acetic Acid—

Holland,	145 pkgs.	A. & M. Zimmermann

Alkali—

France,	3 c.	Arnati & Harrison
Germany,	29 pkgs.	L. & I. D. Jt. Co.

Alum—

Holland,	29 pkgs.	H. Wallace & Co
Germany,	30	Beresford & Co.
Holland,	154 cks.	Ohlenschlager Brs.

Antimony Ore—

Corsica,	100 t.	Novelli & Co.
Germany,	10	City Coml. Wf., Ltd.
Portugal,	50	J. Bamber
Japan,	101	Pillow, Jones, & Co.

Asbestos—

Holland,	£12	G. Rahn & Co.

Barytes—

Germany,	41 cks.	A. Zumbeck & Co
,,	114	W. Harrison & Co.
,,	42	Colthurst & Harding
Belgium,	54	J. L. Lyon & Co.
,,	40 68 pkgs.	W. Harrison & Co.

Boracic Acid—

Italy,	38 pkgs.	F. I

Bromide of Iron—

Germany,	3 cks.	A. & M. Zi

Caoutchouc—

Zanzibar,	64 c.	L. & I. D. J
U States,	55	"

E. Indies, 87 c. L. & I. D. Jt. Co.
" 51 Henderson Brs.
" 76 Prop. Bull Wf.
U. States, 50 "
U.S Colombia, 30 "
France, 20 Mory & Co.
Aden, 67 Wallace Brs
" 9 Forbes Forbes, & Co.

Carbonic Acid Gas—
Holland, 75 pkgs. J. F. Putz & Co.

Castor Oil—
Italy, 10 cs F. Boehm
" 20 Fellows, Morton, & Co.
E. Indies, 398 H A. Litchfield & Co.
Belgium, 5 brls. Fuerst Brs.

Caustic Potash—
Belgium, 70 c. Petri Brs
Holland, 10 F. Boenm
France, 14 pkgs. Spies Brs. & Co.

Caustic Soda—
Holland, 120 c. Beresford & Co.

Chemicals (*otherwise undescribed*)
Melbourne, £13 Hopcraft & Broadwater
France, 10 B. & F. Wf. Co.
" 17 pkgs. Flageollet & Co.
Holland, 17 £5 J. Owen
" 54 Beresford & Co
" 2 Phillipps & Graves
Norway, 26 W. H. Smith
U. States, 21 "
— 21 cks. "
Rangoon, 6 L. & I D. Jt. Co.
Germany. £18 "
" 40 T. H. Lee
" 51 A. & M. Zimmermann

Cream of Tartar—
Italy, 11 pkgs. Fellows, Morton, & Co.
" 20 21 cks. Howards & Sons
Holland, 4 Kirkpatrick & Co.
France, 12 W C. Bacon & Co.
" 16 cs Domeier & Co.
" 10 cks M. Ashby, Ltd.
" 12 E. W. Carling & Co.
" 12 G. Haller & Co.
" 2 Sharland & Co.
Spain, 10 pkgs. B & F. Wf. Co., Ltd.

Dextrine—
Germany, 20 bgs. Elkan & Co.
" 20 Phillipps & Graves
" 300 pkgs. W. Balchin

Dyestuffs—
Aniline
France, 1 pkge. Flageollet & Co.
Holland, 1 Elkan & Co.
" 5 R. Baelz & Co.
Argols
Italy, 82 pkgs Thames S T. & L. Co.. Ltd
" 1,215 B. Jacob & Sons
Cutch
Rangoon, 5 pkgs. L. & I. D. Jt. Co.
E. Russia, 25 Kleinwort, Sons, & Co.
Extracts
Germany, 4 pkgs. T. H. Lee
" 2 Craven & Co
Belgium, 100 T. H. Lee
Denmark, 58 Elkan & Co.
" 8 cks. R. J. Fullwood & Bland
" 3 Bailey & Leetham
Holland, 1 pkge Hooton & Yates
France, 4 T. H. Lee
" 50 L. J. Levinstein & Sons
Fustic
Jamaica, 31 t. Park, Macfadyen & Co.
" 45 Anderson, Anderson & Co.
" 3 Hawthorn, Shedden & Co.
Gambier
E. Indies, 169 pkgs. L. & I. D. Jt. Co.
Germany, 105 S. Figgis & Co.
E. Indies, 193 Brinkmann & Co.
" 252 R. & J. Henderson
" 954 Beresford & Co
" 36 E. Boustead & Co.
Indigo
France, 5 chts F. W. Heilgers & Co.
" 17 L. & I. D. Jt Co.
E. Indies, 588 "
" 119 Elkan & Co.
" 27 Benecke, Souchay & Co
" 21 Walker Munsie & Co.
" 80 Park, Macfadyen & Co.
" 21 Croysdale & Co.
" 241 Parry & Co
" 4 T. Barlow & Bro.
" 4 Dipnall & Co.
E. Indies, 34 chts. Parsons & Keith
" 7 M. Erdmann & Co.
" 121 W. Balchin
" 10 W. Isted
" 24 W. Brandts, Son, & Co
" 87 H W Jewsbury & Co.
" 54 Eales & Rutherford
" 11 Stansbury & Co
" 47 F. Huth & Co.
" 154 Arbuthnot, Latham & Co.
" 214 R. von Glehn & Sons
" 33 F. W. Heilgers & Co.
" 56 H. Lambert
" 39 Darling Brs.
" 59 E Bower & Co.
" 93 Ernsthausen & Co
" 55 Ralli Brs.
" 53 P. & O. Co.
" 10 Arthur & Hinsham
" 13 E Theodore & Co.
" 1 Fruhling & Goschen
" 5 D. J. Keymer & Co
" 69 pkgs. Wrightson & Son
Holland, 1 cht R. Baelz & Co.
Logwood
Belize, 193 t. Belize Est. & P. Co.
Jamaica, 20 Anderson, Anderson & Co.
" 99 Park, Macfadyen & Co.
Myrabolams
E. Indies, 480 pkgs. L. & I. D. Jt. Co.
" 1,366 H. A. Litchfield & Co.
Shumac
Italy, 500 pkgs. J. Kitchin, Ltd.
" 55 W. H. Mitchell
" 150 J. Knill & Co.
France, 150 Union L. Co.
Tanner's Bark
Cape, 41 t. Boutcher, Mortimore & Co
Natal, 107 A. & W. Nesbitt
Adelaide, 40 Baxter & Hoare
Belgium, 14 Leach & Co.
Valonia
A Turkey, 50 t. Boutcher, Mortimore & Co.

Dyestuffs (*otherwise undescribed*)
U. States, 1 cs. L. & I. D. Jt Co

French Chalk—
Italy, £40 C. F. Gerhardt
France, 45 Stobbs, Wilson & Co.
Melbourne, 100 Magee, Taylor & Co.

Gamboge—
E. Indies, 7 cs T. Barlow & Bro

Glucose—
Germany, 15 pkgs. 121 c. M. D. Co.
" 10 82 Trier, Meyer & Co.
" 25 200 J. Knill & Co.
" 200 209 J. Frank & Ohlmann
" 20 174 Prop Chmbln.'s Wf.
Holland, 100 100 Prop. Sun Wf.
France, 100 100 J Barber & Co.
" 200 200 L. Norman & Co.. Ltd.
U. States, 2,756 2,756 L Sutro & Co
" 1,500 1,500 Barett, Tagant & Co.
" 500 500 Humphrey & Co.
" 250 250 Ohlenschlager Brs.
" 100 551 Prop. Scott's Wf
" 50 280 R. G. Hall & Co.

Iodine—
Holland 145 pkgs. A. Gibbs & Sons

Iodoform—
France, 1 cs. Mory & Co.

Manganese Ore—
Japan, 175 t. J Swire & Sons

Manure—
Germany, 268 t. F. W. Berk & Co., Ltd.
Belgium, 20 J. Gibbs & Co.
" 2 Leach & Co.
France, 150 A. Hunter & Co.
" 140 W. H. Carey & Sons
" 209 J. Burnett & Sons
E. Indies, 16 Odam's Chmcl. Manure Co.

Mica—
E. Indies. £388 L. & I. D. Jt Co
Germany, 10 "
France, 23 Flageollet & Co.

Ochre—
Holland, 12 pkgs 6 cs. Phillipps & Graves
Germany, 2 cks. "
France, 148 brls W. Harrison & Co.
" 5 cks. J. L. Lyon & Co.

Paraffin Wax—
U. States, 2,563 brls. J. H Usmar & Co.
" 310 H. Hill & Sons
" 190 Davy & Goulden

Phosphate Rock—
France. 150 t. A. Hunter & Co
U. States, 3,713 Wyllie & Gordon
Holland, 8 H. & E. Albert
Belgium, 135 "
" 140 W. H. I. Alexander
W. Indies, 415 W. Bauer

Plumbago—
Holland, 69 cks. B. Gallaway
Ceylon, 194 brls Prop Sun Wf.
" 357 J. Thredder, Son & Co.

Potash—
France, 32 c. Petri Brs.

Potassium Carbonate—
France, 22 c. J. A Reid
" 200 Charles & Fox
" 40 Spies Brs. & Co.

Potassium Oxymuriate—
Belgium, 10 pkgs. G. Boor & Co

Potassium Permanganate—
Holland 30 cks. F. Boehm

Potassium Sulphate—
France, 40 drs. Mead, Son & Co.

Pumice Stone—
Italy, 3½ t O'Hara & Hoar

Pyrites—
Spain, 1,020 t Naylor, Benzon & Co.

Quicksilver—
Spain, 5,000 flks. N. M. Rothschild & Sons

Rosin—
Germany, 5 brls. H. Lambert

Saltpetre—
E Indies, 505 bgs. Lucas & Spencer's Wf.
" 954 G. Ward & Sons
" 346 A. Hunter & Co.
Germany, 107 P. Hecker & Co.
" 500 Anglo-Cont Guano Wks
" 1,322 Ralli Brs
" 913 Lucas & Spencer's Wf.
" 50 cks. J. Hall, jr. & Co.
" 4 Petri Brs
" 50 T. Merry & Son

Sodium Hyposulphite—
Holland, 140 pkgs. F. Boehm

Starch—
Belgium, 76 pkgs. F. Rosenthal & Co.
" 240 Leach & Co.
Holland, 1,222 Little & Johnston
" 34 Phillipps & Graves
" 196 J. Owen
" 195 Hernu, Peron & Co.
" 40 J. Barber & Co.
U. States, 125 Oswego Co

Stearine—
France, 142 bgs. Beresford & Co
" 80 H. Hill & Sons

Tartaric Acid—
Holland, 51 pkgs Kirkpatrick & Co.
" 4 4 cks. B. & F. Wf. Co.

Turpentine—
N. Russia, 52 brls. Linck, Moeller & Co.

Ultramarine—
Holland, 11 cs. Hernu, Peron & Co.
Belgium, 5 cks. Leach & Co.
" 11 cs. 2 brls. W. Harrison & Co.

Varnish—
U. States, 16 pkgs. William, Torrey & Co.

Vermilion—
Germany, 6 cks. Magee, Taylor & Co.
Holland, 4 "

Verdigris—
France, 1 pkge F Allen & Sons

White Lead—
Belgium, 47 cks. Colthurst & Harding
" 11 J. L. Lyon & Co.
Germany, 27 oks. Spies Brs & Co.
" 11 H. Lambert
" 98 M. Ashby, Ltd.
" 12 Petri Bros
" 40 Magee, Taylor & Co.
France, 9 J. Watt & Son

Zinc Oxide—
Germany, 10 cks. Beresford & Co
Holland, 95 brls. M. Ashby, Ltd.
U States, 150 "

Zinc Sulphate—
Germany, 31 cks F Smith

LIVERPOOL.

. Week ending March 15th.

Acetate of Lime—
New York, 300 bgs. Manchester Ship Canal
" 813

Albumen—
Marseilles, 10 cs.

Alum—
Constantinople, 7 brls. 7 kgs P. V. Maniachi

Aluminium—
New York, 18 bxs

Antimony Ore—
Antofagasta, 72 bgs Aillon, Aramayo, & Co.
" 70 Hainsworth. Watson, & Co,
" 811 A Gibbs, Sons & Co.
" 110 H. R. Merton & Co.
" 14 D Maclean & Co.

Asbestos—
St. John's, N'fd., 293 bgs. J. J. Langley

Barytes—
Antwerp, 49 bgs. 1 bdle 22 cks.

Borates—
San Francisco, 1,000 sks.

Borate of Lime—
Antofagasta, 1,150 bgs. D Maclean & Co

Borax—
Mollendo, 1,000 sks. H. W Gibson
" 550 P. Bebin
Baltimore, 11 bxs. M'Kibbin & Cordukes

Castor Oil—
Calcutta, 470 cs Ralli Brs.
Marseilles, 5 cs. 28 brls.

Chrome Ore—
Baltimore, 81 brls. P R. M Quie & Son

Colours—
Hamburg, 2 cks.
Ghent, 2 brls. J. T. Fletcher & Co.

Copperas—
Constantinople, 10 brls. P. V. Maniachi

Copper Sulphate—
Constantinople, 2 kgs. P. V. Maniachi
Baltimore, 37 brls.

Cottonseed Oil—
Baltimore, 100 brls.

Cream of Tartar—
Barcelona, 5 cks. 5 hhds.
Tarragona, 5
" 5 Sachse & Klemm

Dyestuffs—
Cochineal
Gd. Canary, 10 bgs. A. Mahler
Cutch
Rangoon, 3,550 bxs.
Divi Divi
Hamburg, 238 bgs.
Extracts
Bordeaux 127 cks.
Halifax, 80 Boutcher, Bacon, & Co.
Baltimore, 20 brls. R. Schloesser & Sons
Gambier
Singapore, 2 797 bls. 160 bgs.
Indigo
Calcutta, 280 chts.
Logwood
New York, qty. B. Ackerley & Son
Belize, 125 t.
Savannah la Mar, 437 t. 10 c
Myrabolams
Bombay, 5,357 bgs.
Valonia
Marathonsi, 131 t.

Farina—
Fiume, 100 bgs. A. Baumann & Co.
" 100 H. T. Gaddum & Co.
" 50 C. J. Vander Veen & Bro.
" 190
Antwerp, 20
Glucose—
New York, 2 brls. 5 pls.
Newport News, 250
Baltimore, 300
Hydrogen Peroxide—
Hamburg, 5 cbys.
Iron Oxide—
Trieste, 6 cks.
Manganese Ore—
Port Augusta, 240 t.
Manganese Sulphate—
Hamburg, 2 cks.
Mica—
Boston, 22 brls.
Mineral White—
Trieste, 100 bgs. Schroder & Co.
" 100 F. Parisi
Ochre—
Antwerp, 13 bgs.
Bordeaux, 20 cks.
Paint—
Hamburg, 5 cks.
Paraffin Scale—
Philadelphia, 179 brls.
Phosphates—
Ghent, 500 bgs J T. Fletcher & Co.
Brunswick, Ga., 2,091
Phosphate Rock—
Port Royal, S C., 1,000 t.
Pitch—
Hamburg, 13 cks
Potashes—
Hamburg, 11 cks.
Antwerp, 52 brls. 21 dms.
Portland, 30 Wilson, Paterson, & Co.
Pyrites—
Huelva, 5,973 t. Matheson & Co.
" 1,990
Quicksilver—
Gijon, 104 flks. A Ruffer & Sons
Saltpetre—
Calcutta, 674 bgs.
Hamburg, 150 brls. 25 kgs. 4 cks.
Soap—
New York, 6 cs.
Marseilles, 61
Hamburg, 3
New York, 1 bx. Colgate & Co.
Philadelphia, 31 29 pkgs.
Alexandria, 2 Hamain Brs.
Bari, 204
Soapstone—
Trieste, 200 bgs. W. Harrison & Co.
Starch—
Antwerp, 143 cs J. T. Fletcher & Co.
" 130
Newport News, 2,000 bgs. Gabian & Co.
" 600
Searine—
Antwerp, 84 bgs.
" 2 cks. J T. Fletcher & Co.
Tallow—
Boston, 15 hhds.
Philadelphia, 150 brls.
Tartar—
Bordeaux, 18 cks.
Tincal—
Calcutta, 103 bgs.
White Lead—
Antwerp, 6 cks.
Zinc Ashes—
Marseilles, 24 brls.
Zinc Oxide—
Antwerp, 130 brls.
Zinc Skimmings—
Boston 833 bgs.

MANCHESTER.

Week ending March 17th.

Alum—
Rotterdam, 14 cks.
Alumina Sulphate—
Rotterdam, 32 cks. Simpson, Howden, & Co
Aniline Colours—
Rotterdam, 1 ck Simpson, Howden, & Co.
Colours—
Rotterdam, 25 bxs. 62 brls. 1 ck.
" 16 cs. Simpson, Howden, & Co.
Treport, 4 13 cks
Dyestuffs—
Alizarine
Rotterdam, 95 brls.
" 3 cks. Simpson, Howden & Co.
Logwood
Savannah-la-Mer, 530 t. Simpson, Howden, & Co.
Montego Bay, Ja., 534 "
Litharge—
Rotterdam 6 cks Simpson, Howden, & Co.
Naphtha—
Rotterdam, 1 bx. 2 brls.
Nitrate—
Rotterdam, 8 cks. Simpson, Howden, & Co.
Potash—
Rotterdam, 40 dms. Simpson, Howden, & Co.
Potassium Sulphate—
Rotterdam, 105 cks. Simpson, Howden, & Co.
Starch—
Rotterdam, 210 cs.
" 12 bgs. Simpson, Howden, & Co.
Tartar—
Bordeaux, 2 cks.
Tartaric Acid—
Rotterdam, 48 cks.
Ultramarine—
Rotterdam, 1 ck 8 cs.

HULL.

Week ending March 17th.

Alkali—
Bremen, 4 pks. Veltmann & Co.
Aluminium—
Rotterdam, 1 cs. Hutchinson & Son
Arsenic—
Hamburg, 10 cks. Wilson, Sons, & Co., Ltd.
Asbestos—
Rotterdam, 3 pkgs. W. & C. L. Ringrose
Barytes—
Antwerp, 104 cks. Bailey & Leetham
Bremen, 42
Camphor—
Hamburg, 8 brls. Wilson, Sons, & Co., Ld.
Chemicals (*otherwise undescribed*)
Bremen, 1 bkt. Veltmann & Co.
" 1 kg. Johnson Bros.
Hamburg. 15 pks. Wilson, Sons, & Co., Ld.
" 1 ck. Lofthouse & Saltmer
Dunkirk, 34 pks. Wilson, Sons, & Co., Ld.
Antwerp, 143 "
Colours—
Rotterdam, 33 pkgs W. & C. L. Ringrose
" 7 cs. 45 pks. 3 cks. Hutchinson & Son
Flushing, 3 18 cks. "
Amsterdam, 3 kgs. W. & C. L. Ringrose
Antwerp, 30 Bailey & Leetham
Stettin, 9 Wilson, Sons, & Co., Ltd.
Bremen, 13 pks. Veltmann & Co.
" 2 cs. J. Pyefinch & Co
" 4
Hamburg, 6 cks. Wilson, Sons, & Co., Ld.
Cream of Tartar—
Rotterdam, 4 cks. Hutchinson & Son
Dextrine—
Stettin, 100 bgs. Wilson, Sons, & Co., Ld.
" 100
Dyestuffs—
Annatto
New York, 60 bgs Wilson, Sons, & Co., Ltd.
Madder
Rotterdam, 1 ck W. & C. L. Ringrose
" 4 Hutchinson & Son
Myrabolams
Bombay, 112 bgs.
Farina—
Stettin, 760 bgs. Wilson, Sons, & Co., Ld
Harlingen, 100 1,245 pks.
Ghent, 256 cs. "
Hamburg, 75 bgs. "
Glucose—
Stettin, 300 bgs. 5 cks.
New York, 50 brls. Wilson, Sons, & Co., Ld
Guano—
Aden, 8 bgs. Wilson, Sons, & Co.. Ltd.
Lysekil, 208 t. Hart Bros.
Lime—
New York, 801 bgs. Wilson, Sons, & Co., Ld.
Ochre—
Rouen, 104 cks.
Paint—
Boston, 130 cs Wilson, Sons, & Co., Ltd.
New York, 66 "
Phosphate—
Antwerp, 50 t.
St. Valery, 123
Ghent, 2 337 bgs. Wilson, Sons, & Co., Ld.
" 200
Antwerp, 1,000 "
Pitch—
Antwerp, 24 cks.
Potash—
Antwerp, 100 cks. Bailey & Leetham
Libau, 50 brls. "
Potassium Chloride—
Hamburg, 5 cks. Wilson Sons, & Co., Ld.
Saltpetre—
Hamburg, 200 kgs 75 bgs. Wilson, Sons, & Co., Ld.
" 37 cks.
Antwerp, 135 bgs. Wilson, Sons, & Co., Ld.
Soda—
Antwerp, 20 cks Bailey & Leetham
Rotterdam, 18 W. & C. L. Ringrose
Sodium Nitrate—
Rotterdam, 4 cks. Hutchinson & Son
Starch—
Antwerp, 50 cs. Bailey & Leetham
Bremen, 882 Veltmann & Co.
Stearine—
Rotterdam, 35 bls. Wilson, Sons, & Co., Ld.
Antwerp, 14 bgs. Bailey & Leetham
Drontheim, 4 brls. Wilson Sons, & Co., Ld.
Antwerp, 52 bgs. "
Tartaric Acid—
Rotterdam, 7 cks. Hutchinson & Son
Turpentine—
Libau, 52 cks.
Ultramarine—
Rotterdam, 12 cks. Hutchinson & Son
Varnish—
New York, 20 brls, 29 pkgs Wilson Sons, & Co., Ltd.
" 12
Antwerp, 11 cs "
Waste Salt—
Hamburg, 209 bgs
White Lead—
Antwerp, 52 cks. Bailey & Leetham
Rotterdam, 67 Hutchinson & Son
Zinc Oxide—
Rotterdam, 13 cks. Hutchin

GLASGOW.

Week ending March 22nd.

Aniline Dyes—
Antwerp, 2 cks 1 cs.
Aniline Oil—
Rotterdam, 1 ck. J. Rank
Barium Sulphate—
Antwerp, 126 cks. 255 bgs.
Carbonic Acid—
Rotterdam, 20 tbs. J. Rank
Castor Oil—
Antwerp, 142 cks.
Calcutta, 550 cs.
Chemicals (*otherwise undescri*
Rotterdam, 20 cks. J. Ra
Cobalt Ore—
Havre, 2,839 bgs.
Colours—
Rotterdam, 10 cs. 3 cks. 7 pkg
Antwerp. 2
Dyestuffs—
Alizarine
Rotterdam, 4 cks. 31 pkgs.
Extracts
Rouen, 10 cks.
Madder
Rotterdam, 4 cks. J. Ra
Farina—
Delfszyhl, 250 bgs.
Fluor Chrome—
Rotterdam, 1 bx. J. Ra
Glucose—
New York, 200 brls
Lead Acetate—
Rotterdam, 31 cks. J. Ra
Paraffin Scale—
New York, 68 brls.
Potash—
Rotterdam, 43 cks, J. Ra
Pyrites—
Huelva, 1,810 t. Tharsi
Rosin—
New York, 1 313 brls.
Starch—
Rotterdam, 100 cs. J Ra
New York, 250 sks.
Tallow—
Rotterdam, 66 tcs J. Ra
New York, 120 50 hhds.
Tartar—
Bordeaux, 17 cks.
Oporto, 10
Varnish—
New York, 8 cs. 73 brls.
Antwerp, 11 cks.
White Lead—
Rotterdam, 68 cks. J. Ra
4
Zinc Oxide—
Antwerp, 15 cks.
Rotterdam, 10 J. Rankine &
Zinc White—
Rotterdam, 150 cks. J. Ra

TYNE.

Week ending March 17th.

Alum Earth—
Hamburg, 18 cks. Tyne S. S
Asbestos—
Rotterdam, 3 bls. Tyne S. S
Barytes—
Antwerp, 25 cks. Tyne S. S.
Dextrine—
Copenhagen, 100 bgs.
Limestone—
Antwerp, 2 crts. Tyne S. S.
Pyrites—
Huelva, 1,675 t. Scott B
" 2,058

Saltpetre—
Hamburg, 3 cks Tyne S. S. Co.
Sulphur Ore—
Pomaron, 970t. Mason & Barry
Zinc Oxide—
Antwerp, 40 brls. Tyne S. S. Co.
Rotterdam, 25 cks. ,,

GOOLE.

Week ending March 14th.

Alkali—
Calais, 20 cks.
Antimony—
Boulogne, 1 ck.
Barium Sulphate—
Ghent, 50 bgs.
Chloride of Lead—
Calais, 11 cks.
Dyestuffs—
Alizarine
Rotterdam, 22 brls. 35 pkgs.
Extracts
Ghent, 100 cks.
Rouen, 5
Logwood
Hamburg, 94 t.
Jamaica, 861
Dyestuffs (*otherwise undescribed*)
Boulogne, 29 cks 15 cs.
Farina—
Hamburg, 2,600 bgs.
Delfszyhl, 1,350
Glucose—
Calais, 400 bgs.
Hamburg, 41 cks
Phosphate—
Ghent, 2,000 bgs.
Potash—
Calais, 109 dms.
Rotterdam, 20 cks
Dunkirk, 20 3
Antwerp, 8
Pyrites—
Huelva, 1,159 t.
Saltpetre—
Rotterdam, 200 bgs.

GRIMSBY.

Week ending March 17th.

Chemicals (*otherwise undescribed*)
Hamburg, 12 cks. 5 cs.
Dyestuffs (*otherwise undescribed*)
Dieppe, 30 cks.
Farina—
Hamburg, 75 bgs.
Zinc Ashes—
Antwerp, 14 cks.

EXPORTS OF CHEMICAL PRODUCTS
OF
THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending March 21st.

Acetic Acid—
Melbourne, 46 pkgs 3 c. £124
Alkali—
Barbadoes, 1 t. £5
Alum—
Pernambuco, 1 t. 3 c. £7
Aluminous Cake—
Calcutta, 26 t. 7 c. £96
Ammonia (Liquid)—
Cadiz, 10 dms. £23
Rangoon, 5 cs. 38
Cape Town, 12 17
Ammonium Carbonate—
Melbourne, 5 c. £9
Sydney, 10 22
Ammonium Chloride—
Canterbury, 3 c. £5
Ammonium Nitrate—
Brussels, 9 cks. £54
Ammonium Sulphate—
Ghent, 22 t. £300
Ammonium Sulpho-cyanide—
Philadelphia, 12 cks. £117
Bisulphite of Lime—
Natal, 1 t. 12 c. £17
Bleaching Powder—
Auckland, 13 c £6
Bone Ash—
Melbourne, 6 c. £23
Boracic Acid—
Sydney, 10 c. £20
Borax—
Hamburg, 6 cks £47
Boric Acid—
Algoa Bay, 6 cks. £14
Carbolic Acid—
Sydney, 1 c. £5
Trinidad, 6 8
Melbourne, 2 8
Cape Town, 2 cs. 9
Carbon Bisulphide—
Libau, 3 dms. £6
Carbonic Acid Gas—
Bombay, 127 cyldrs. £40
Caustic Potash—
Sydney, 1 t. 7 c. £29
Melbourne, 1 1 23
Caustic Soda—
Dunedin, 8 t. 6 c. £87
Algoa Bay, 16 27
Delagoa Bay, 2 1 39
Sydney, 19 5 183
Melbourne, 1 19 38
Chemicals (*otherwise undescribed*)
Sydney, 5 cs. £15
New York, 16 cks. 258
Algoa Bay, 6 9
Cape Town, 1 8
Madras, 1 13
Citric Acid—
Genoa, 17 c. £131
New York, 5 47
Amsterdam, 9 kgs. 69
Hamburg, 1 ck. 37
Copenhagen, 1 8
Yokohama, 5 36
Melbourne 5 42
Adelaide, 3 22
Reval, 1 t. 152
Antwerp, 4 cks. 142
Cape Town, 1 cs. 8
Coal Products—
Alizarine
Libau, 15 cs. £1,175
Aniline
Sydney, 1 cs. £7
Melbourne, 3 35
Aniline Oil
Barcelona, 12 cks. £125
Genoa, 10 dms. £300
Aniline Salts
Barcelona, 6 cks. £35
Anthracene
Rotterdam, 61 cks. £292
Dusseldorf, 214 1,100
Benzol
Rotterdam, 23 dms. 20 pns. £406
Boulogne, 49 cks. 147
Calais, 34 280
Coal Tar Dyes
Calcutta, 2 cs. £53
Creosote
Algoa Bay, 1 cs. £8
St. Malo, 535 cks. 190
Danzig, 100 brls. 67
Naphthaline
Hamburg, 128 cks. £199
Libau, 1 14
Antwerp, 2 19
Algoa Bay 20 dms 6
Paraffin Wax
Auckland, 3 tks. £115
Pitch
Philadelphia, 2,022 bgs. £411
Cette, 1,020 t. 1,843
Alexandria, 450 brls. 164
Antwerp, 300 373
Hamburg, 100 39
Dunkirk, 1,095 1,462
St Malo, 592 828
Terneuzen, 300 428
Tar
Sydney, 150 dms. £31
Gothenburg, 40 cks. 26
Brisbane, 50 12
Algoa Bay, 75 15
Tar Oil
Paris, 60 cks. £165
Stettin, 100 brls. 67
Treport, 15 15
Trelleborg, 873 458
Tar Salts
Rouen, 1 tce. £17
Toluol
Rotterdam, 9 pns. £100
Coal Products (*otherwise undes.*)
Sydney, 206 dms. £42
Copperas—
Auckland, 10 t. 14 c. £20
Copper Sulphate—
Algoa Bay, 9 c £7
Perth, 4 cs. 18
Lisbon, 5 t. 4 75
Bordeaux, 30 10 488
Boulogne, 10 170
Treport, 5 85
Danzig, 15 8 228
Oporto, 2 6 38
Cream of Tartar—
Brisbane, 2 c. 10 kgs £41
Cairns, 2 7
Melbourne, 6 t. 387
Adelaide, 5 16
Sydney, 3 9 232
Geraldton, 2 6
Disinfectants—
Bombay, 3 cs. £10
Algoa Bay, 1 t. 2 c. 10
E. London, 14 9
Melbourne, 28 pkgs. £24
Sydney, 14 cks. 70
Antigua, 29 dms. 9
Bremen, 1 t. 5 c. 37
Hobart, 4 pkgs. 7
Natal, 19 30
Calcutta, 100 dms. 12
Flowers of Sulphur—
Algoa Bay, 8 t. 19 c. £104
Capetown, 4 9 57
Fremantle, 1 6
Hypophosphite of Lime—
Philadelphia, 10 c. £193
Magnesium Sulphate—
Melbourne, 1 t. £8
Manure—
Mauritius, 101 t 9 c. £524
Bordeaux 107 15 445
Landerneau, 415 1 3,200
Lisbon, 1 9
Rotterdam, 15 4 124
Odense, 10 8
Sablesd'Olonne, 115 757
Stettin, 869 17 2,050
Nitric Acid—
Melbourne, 14 cs. £27
Madras, 17 c. 7
Oxalic Acid—
Capetown, 2 c. £5
Wellington, 3 5
Oxygen—
Brussels, 7 c £46
Phosphoric Acid—
Mauritius, 25 t. 4 c. £441
Phosphorus—
Dunedin, 31 cs. 9 c. £416
Sydney, 3 30
Potash—
Townsville, 2 c. £5
Potash Crystals—
Sydney, 10 c. £154
Potash Salts—
Natal, 31 t. 2 c. £4,300
Potassium Bicarbonate—
Yokohama, 2 t. 10 c. £74
Potassium Bichromate—
Braila, 5 c. £13
Potassium Chlorate—
Melbourne, 1 t. £63
Potassium Cyanide—
Yokohama, 5 c. £28
Potassium Permanganate—
Melbourne, 5 c. £14
Saltpetre—
Algoa Bay, 2 t. 3 c. £50
Rio de Janeiro, 7 7 172
Bahia, 1 1 24
Oporto, 11 4 229
Sheep Dip—
Algoa Bay, 3 t. 3 c. £142
E. London, 2 17 75
Melbourne, 250 cs. 750
Silver Nitrate—
Amoy, 1 cs. £10
Soda—
Algoa Bay, 10 t. 4 c. £23
Soda Crystals—
Algoa Bay, 4 t. 4 c £14
Capetown, 16 3
Trinidad, 1 12 6
Fremantle, 3 12 10
Sodium Acetate—
Melbourne, 1 t. 3 c. £16
Sodium Bicarbonate—
Jamaica, 10 c. £4
Brisbane, 1 t £8
Sodium Carbonate—
Wellington, 10 c. £14
Cairns, 2 1
Sodium Hyposulphite—
Calcutta, 6 cs. £7
Sulphuric Acid—
Natal, 20 cs. £11
Capetown, 20 kgs. 3 pks. 27
Mauritius, 1 t. 6 c 10
Aden, 10 cs 9
Superphosphate—
Mauritius, 49 t 11 c. £198
Tartaric Acid—
Mossel Bay, 1 cs. £6
Brisbane, 2 c. 10 kgs. 61
Yokohama, 1 t. 1 cs. 102
Algoa Bay, 2 cks. 2 c. 20
Sydney, 1 t. 5 c. 20 kgs. 113
Launceston, 1 6
Adelaide, 10 49
Melbourne, 5 26

LIVERPOOL.

Week ending March 21st.

Alkali—
Ponce, 4 c. £6
Alum—
Montreal, 3 t. £14
Alum Cake—
Calcutta, 5 t. 16 c. 2 q. £20
Aluminous Cake—
Calcutta, 17 t. 7 c. 3 q. £67
Ammonium Carbonate—
Ceara, 4 c. £15
Bordeaux, 1 t. 8 64
Odessa, 3 19 132
Hamburg, 1 2 2 q 40
Ammonium Chloride—
Alexandria, 1 t. 2 c £39
Lisbon, 6 11
Ibrail, 5 9
Valparaiso, 1 1 38
B. Ayres, 1 39
Smyrna, 2 5 81
Trieste, 3 3 111
Vera Cruz, 8 17
Piræus 4 7
Philadelphia, 20 9 1 q. 524
Ammonium Sulphate—
Dunkirk, 100 t 7 c. 1 q. £1,399
Barcelona, 50 18 1 682
Valencia, 24 2 332
Demerara, 25 4 367
E. St. Louis, 50 675
New York, 40 3 550
Philadelphia, 50 7 1 725
Amorphous Phosphorus—
Hiogo, 4 c. 2 q. £68
Asbestos—
B. Ayres, 1 cs.
Barium Sulphate—
Volo, 5 t 2 c. 1 q. £17
Bleaching Powder—
Baltimore, 20 cks.
Boston, 607
Havre, 25
Madrid, 26
New York, 69
Bombay, 5 kgs.
Rouen, 44
Bone Waste—
Rouen, 2 t. 10 c. £18

Boracic Acid—

Boston,	3 t.	5 c.	1 q.	£108
New York,	3	5	1	108
Toronto,		14		28

Borax—

Bremen,	4 t	6 c.	3 q	£115
Christiania,		7	3	12
Seville,	2	16	3	76
M. Video,		2		5
Alexandria,		17		24
Ghent,	1	3	2	34
Ibrail,		15		19
Stettin,	13	5	2	385
Gosselies,	4	17		131
Rotterdam,	7	19	3	215
Hamburg,	5	12		164

Calcium Chloride—

Bombay,	3 t.	11 c.		£9
New York,	10	4		27

Camphor—

Sydney,	1 cs.

Carbolic Acid—

New York,	3 t	14c.	1 q.	£225
Marseilles,	1	9	2	72
Rouen,	5	1	2	273
Yokohama,	1			49
Mila,	2	10		152
Hamburg,	11	2		575

Caustic Soda—

Algoa Bay,	40 dms.
Bahia.	40
Baltimore,	187 170 brls.
Calcutta,	173
Fiume,	105
Halifax,	35
Havre,	35
London, Ont.,	35
Malaga,	57
Manila.	101
Melbourne,	43
Montreal,	50
New York,	245
Odessa,	50
Rangoon,	14
Rotterdam,	33
Santander,	25 18 cks.
Stettin,	152
Sydney,	69
Tampico,	50
Trieste,	15
Bombay,	251
Gibraltar,	20
Hamburg,	60
Rouen,	120
Yokohama,	100

Chemicals (*otherwise undescribed*)

Barcelona,		2 c.	3 q.	£62
Syra,	1 t.	17		27
Smyrna		16	3	29
New York,	9	2		228
Philadelphia,	12	18		326

China Clay—

Bombay,	200 t.
Boston,	263
B. Ayres,	20

Chloroform—

Mexico City,	1 cs.
Toronto,	3

Citric Acid—

Iloilo.		1 c.	2 q.	£14

Coal Products—

Aniline Colours

Shanghai,	45 cs.
Lisbon,	1 bx. 1 ck.
New York,	5 kgs. 9

Aniline Oil

New York,	30 dms.
Rouen,	5
Stettin,	5 cks.

Aniline Salts

Dantzig,	1 ck.
New York,	107 cs.
Piræus,	6

Tar

Philadelphia,	150 brls.
Galatz,†	50
St. John's, N.F.,	100 kgs.
Sierra Leone,	20 pts.

Copperas—

Galatz,	3 t.	4 c.	2 q.	£6
Melbourne,	9	7	2	21

Copper Sulphate—

Genoa,	2 t.	5 c.	2 q.	£35
Venice	23	19	1	352
Oporto,	3			45
Lisbon,	10	6	3	159
Rouen,	100	5		1,554
Naples,	3	13	3	54
Messina,	2	19		42
Nantes,	19	14		310
Bordeaux,	246	10		3,840

Cream of Tartar—

Sydney,	3 t.		£200
Bordeaux,	1 bx.		6
Montreal,	2 t.	10 c.	70

Disinfectants—

Calcutta,		3 c.	£5

Dried Blood —

Rouen,	10 t.		£65
Gd. Canary,	14		112

Guano—

Hamburg,	49 t.	7 c.	£222

Iron Sulphate—

Valparaiso,	24 t.		£50

Lime—

Old Calabar,	4 cks.

Magnesia—

Paris,	28 cs.

Magnesium Sulphate—

Seville,	2 t.	16 c.	3 q.	£12
Pernambuco,	15 brls			
Rio de Janeiro,	25 kgs.			

Manganese Oxide—

New York,	1 kg.

Manure—

Bordeaux	200 t.	7 c.	2 q.	£894
St. Nazaire,	200	2	1	863
Antwerp,	28	8	2	116
Rochefort	520	2		1,620
Almeria,	5	9	1	31
Gd. Canary,	20			75

Metallic Sodium—

Rotterdam,	4 t	6 c.	2 q.	£990

Ochre—

Para,	16 kgs.

Oxalic Acid—

Barcelona,		13 c.	3 q.	£21

Paint—

Callao,	17 cs.		
Cape Haitien,	3 cks.		
Dunkirk,	5	11 kgs.	
Jerimie,	8		
Lagos,		50	
Larnaca,	1		
Lisbon,	1	10 brls.	12 dms.
Manila,		50 kgs.	
M. Video,	10		
Montreal,	8		6 cs.
Parnahyba,	3		
Porto Plato,	7		
Principe,		14	
Puerto Cabello,		180	
Valparaiso,		476	
Corunna,		16	
Ferrol,		10	
Old Calabar,		6	
St. John's, Nfld.,	1	140	
St. Marc,	2		
Shanghai,		80	
Underhill,		2	

Painters' Colours—

Accra,	9 cs.		
Alexandria,	1	36 cks.	160 kgs.
Antwerp,	20	28	
Bahia,		25	
Baltimore,	157		
Barcelona,	3		
Bombay,		189	
Boston,	6		30 dms
Cameroons,	1		
Cape Town,	2 1	172	
Ceara,	6 11		
Hamburg,	35 bgs.	35	2
Ibrail,	2 tcs.		10 brls.
Loanda,			4
Maranham,	1 cs. 17		51
New York,	10		
Para,	6 tcs.	184	41
Pernambuco,	55		
Smyrna,		100	
Valparaiso,		250	
Vera Cruz,	7		
Adelaide,		9	
Akassa,			8 dms
Carril,		3	
E. London,		40	
Havana		25	
Rio de Janeiro,			7 brls.
St. Thomas,	4		
San Juan,		50	

Paraffin Wax—

Pernambuco,	20 cs.	
Piræus,	40 bgs.	
Smyrna,	3	

Phosphorus—

Vera Cruz,	8 c.	2 q.	£100
San Juan,	5 cs.		£70

Potassium Bichromate—

Alexandretta,	1 t.	2 c.	2 q.	£44

Potassium Chlorate—

Lisbon,		6 c.	£19
Hamburg,	1 t.	10	£86
New York,	3	15	£236
Boston,	12	10	£758
Progress	1		70
Rander	1		56
Naples,		12	50
B. Ayres,	4		280

Potassium Prussiate—

Seville,	1 brl.	5 c	£49
Yokohama,	1 t.	2	96

Salt—

Accra,	25 t.	
Antwerp,	95	
Boma,	8	18 c.
Boston,	410	
Brass,	10	
Calcutta,	11,613	
Halifax.	560	
London, Ont.,	216	
Montreal,	79	12
New York,	883	
Opobo,	375	
Rotterdam,	149	
Sapeli,	12	
Vanleek Hill,	11	
Abonnema,	24	
Antigua,	8	18
Bonny,	5	
Buguma,	70	
Cape Town,	25	
Degama,	75	
Demerara,	174	12
Gr. Bassam,	5	
Hamburg,	2	5
Manoh,	25	
Matadi,	20	10
M. Video,	5	11
Noqui,	93	15
Rouen,	30	
St. John, N.B.,		8
Salt Pond,	25	
Sulymah,	25	
Sydney,	34	5
Trinidad,	53	9

Salt Cake—

Antwerp,	225 t.			£198
Philadelphia,	226	3 c.		449
Baltimore,	100	6		138
New York,	1	19	2 q.	35

Saltpetre—

Para,	67 t.	10 c.		£1,505
Piræus,	6			130
Gr. Canary,	2			47

Sheep Dip—

M. Video,	3 t.	5 c.		£50
E. London,	1	11	2 q.	55
Durban,		10	2	20
Algoa Bay,		2	3	7

Soap—

Acora,	100 bxs		
Adjuah.		1 cs.	
Alexandria,	62	70	20 pkgs.
Algoa Bay,	2,840		
Antigua,	40		
Barbadoes,	452	2	
Benin,	100		
Boma,	266		
Bombay,	310	42	
Bonny,	50		
B Ayres,		1	
Calcutta,		29	
Cape Town,	2,525	50	
Christiania,	210		20 bdls.
Curacao,	212		
Demerara,	3,380		
Dunkirk,	4		
E. London,	1,344		5
Gr. Bassa,	80		
Hiogo,		1	
Honolulu,	125		
Kurrachee,	500		
Lagos,	30		
La Guayra,		1	
Matadi,	115		
Mexico City,		1	
Mossel Bay,	135		
New York,	360		3 cks.
Old Calabar,	700		
Palma,	274 bxs.		
Pt. Elizabeth,	482	60	
Pt. Natal,	1,450	20	
St. John's, Nfld.,	223		
St. Kitts,	100		
St. Lucia,	105		
San Francisco,			2
Santo Domingo,	40		
Sapeli,	100		
Shanghai,	1,791	1	
Sierra Leone,	56		
Singapore,	1,500		
Teneriffe,	254		
Trinidad,	1,000		
Valparaiso,		6	
Volo,	90		
Warri,	100		
Yokohama,	6		
Aaran,		120	
Brussels,		400	
Genoa,	100		
Half Jack,	60		
Las Palmas,	920		
Rouen,		70	
St. Thomas,		2	
Smyrna,	60		

Soapstone—

Bombay,	10 t

Soda—

Oporto,	2 rolls

Soda Alkali—

Messina,	20 brls.
Odessa,	50
St John's, N B.,	35

Soda Ash—

Antwerp,	50 bgs.	2 cks.		
Baltimore,	2,350	131	129 tcs	
Boston,	772	47	142	
Calcutta,		6		
Christiania,		7		
Fiume,	80			
Hamilton, Ont.,	400			
Maranham,		35		
M. Video,		50		
New York,	6,220	81		
Philadelphia,	2,968	219	131	
St. Stephen, N.B.,		16		
Smyrna,			100 brls	
Yokohama,		50		
Barcelona,		32		
Hamburg,	250	6		
Konigsberg,		10		

Soda Crystals—

Algoa Bay,	25 kgs.	10 cks.
Antwerp,	56 brls.	
Boston,	55	
New York,	40	
Philadelphia,	305	
St John's, N.B.,	20	

Soda Salts—

Rouen,	100 bgs.

Sodium Arseniate—

New York,	20 cks.

Sodium Biborate—

Ingersoll,	28 brls.
Toronto,	34

Sodium Bicarbonate—

Algiers,	15 kgs.		
Barcelona,	120		
Bombay,	120		
Boston,	100		
Calcutta,	600		
Christiania,	90	5 cks.	
Hamburg,	60		
Hamilton, Ont.,	75		
Havre,	14	13	
Ibrail,	60	20 brls.	
Malta,		10 bgs.	
Odessa,	100		
Pasages,	120		
Pt. Natal,	20		
Seville,		140 brls.	
Trieste,			110
Bordeaux,	6	7	2 cks.
Cienfuegos,			10

Sodium Chlorate—

Ghent,	10 kgs.
Hamburg,	40

Sodium Silicate—

Barcelona,	63 cks.
Madeira,	5
Oporto,	15
Salonica,	20
Seville,	30
Sydney,	10
La Guayra,	20 brls.
Malaga,	17

Strontia—

Rotterdam,	2 t.	3 c.
Hamburg,	95	11

Sulphur—

St. John, N.B.,	17 t.	6 c.	3 q.
Boston,	300		
Para,	7	10	

Sulphuric Acid—

Maranham,		12 c.

Superphosphate—

Valencia,	75 t.	1 c.	1 q.
Stettin,	986		
Gd. Canary,	8		

Tartaric Acid—

Havana,		15 c.	
Montreal,	1 t.	19	3 q.
Calcutta,		1	1
Iloilo,		1	3

Turpentine—

Calcutta,	50 dms.

Varnish—

Barcelona,	6 brls.	6 cks.
Cabenda,	25	
Capetown,	3 cs.	
Montreal,	37	3
New York,	2	
Valparaiso,	17	1 brl.
Demerara,		5 dms.
Leghorn,	7	

Lead—
tta, 200 kgs.
u-Prince, 20
raiso, 4 cks.

hloride—
ay, 2 t. 4 c. 1 q. £39
ra, 1 1 2 8
bo, 8 3 12

xide—
nham, 1 t. 7 c. 3 q. £32
Said, 7 3 9

White—
u-Prince, 6 kgs.

NCHESTER.

Week ending March 21st.

—
rdam, 10 brls.

cals (*otherwise undescribed*)
rdam, 82 cks.
, 82

s—
erp, 2 cs.

te Salts—
rdam, 27 cks.

uffs (*otherwise undescribed*)
, 4 dms.

in Scale—
erp, 14 cks.

r—
rdam, 8 cks.

il—
erp, 10 tins. 10 dms.

HULL.

Week ending March 17th.

—
, 100 cks.

nium Sulphate—
irk, 200 bgs.
, 90
, 932
urg, 492
rdam, 701

hing Powder—
n, 307 cks.
orn 13
s, 14
n, 77

—
erp, 22 cks.
tiania, 1
g, 10
rdam, 10
n, 18

lic Acid—
erdam, 13 cks.

lc Soda—
s, 10 dms.

icals (*otherwise undescribed*)
erp, 10 cs. 1 ck.
erdam, 2 pks.
aux, 20
hagen, 175 2 pkgs.
tiania, 2 25
theim, 319 slbs.
g, 1 20 2 pks.
a, 39
enburg, 13 10
o, 15
burg, 183 7
ngen, 20
York, 34
rdam, 14 3
, 10

nseed Oil—
erp, 502 c.
erdam, 11
en, 50
a, 200
enburg, 150
burg, 1,976
orn, 100
eilles, 738
s, 100
rdam, 2,199
nger, 39
n, 398

ote—
burg, 1 ck.

uffs (*otherwise undescribed*)
burg, 5 cs. 2 cks.
a, 1

Linseed Oil—
Antwerp, 4 c.
Bergen, 35
Bordeaux, 36
Copenhagen, 40
Christiania, 187
Drontheim, 59
Hamburg, 315
New York, 227
Rotterdam, 70
Stavanger, 139

Mineral White—
Antwerp, 50 bls.
Copenhagen, 20
Gothenburg, 20
Rotterdam, 200

Naphtha—
Antwerp, 10 cks.

Ochre—
Amsterdam, 20 cks.
Hamburg, 1

Paint—
Antwerp, 1 cs.

Painters' Colours—
Antwerp, 21 cks. 4 cs. 17 dms 56 pkgs.
Amsterdam, 3
Bergen, 2 cks. 135
Bordeaux, 20
Copenhagen, 2 1
Christiania, 5 76 151 pkgs.
Danzig, 21
Dunkirk, 1 cs.
Flushing, 3 9 7 1
Ghent, 18 1 1
Gothenburg, 1 1
Hango, 2
Hamburg, 10 2
Leghorn, 13
New York, 110
Rotterdam, 116 8 3
Reval, 1 1
Stavanger, 1
Stettin, 30

Pitch—
Antwerp, 373 t.
Copenhagen, 4 cks.
Rouen, 5

Soap—
Amsterdam 1 cs.
Christiania, 1

Tar—
Bremen, 2 cks.
Danzig, 1
Ghent, 130
Genoa, 10
Hango, 2
Hamburg, 18
Marseilles, 100
Rotterdam, 8 1 dm.
Stavanger, 3

Tar Salts—
Reval, 34 bls.

Turpentine—
Rotterdam, 1 dm.

Varnish—
Antwerp, 3 cks. 3 cs.
Amsterdam, 16
Bordeaux, 2
Copenhagen, 1 9 5 bls
Ghent, 2 1
Hamburg, 5
Harlingen, 2
Rotterdam, 1
Rouen, 2 2

GLASGOW.

Week ending March 22nd.

Ammonium Sulphate—
Spain, 306 t. 1¾ c. £4,259

Bleaching Powder—
Philadelphia, 20 t. 4¾ c. £170

Castor Oil—
Cape Colony, 1 t. 5 c. £28

Caustic Soda—
Singapore, 7 t. 5 c. £63
Adelaide, 5 7¼ 50

Chloride of Lime—
New York, 6 t. 15 c. £54

Coal Products—
Alizarine Oil
Lisbon, £34
Creosote Oil
Bordeaux, 38 t. 7 c. £113
Naphtha
Melbourne, 1 t. 1½ c £24
Pitch
Italy, 2,910 t. 2 c. £2,618
Bordeaux, 989 9¾ 1,286
Danzig, 166 15 167
Amsterdam, 451 631
Bombay, 34 2 83
Tar
Bombay, 281 t. 5 c. £118. 17s.
Tar Oil
Christiania, 20 brls. £8
Hamburg, 2 dms. £3. 15s.

Coal Tar Products (*otherwise undescribed*)—
Rotterdam, 11 dms. 50 brls. £237

Dyestuffs—
Extracts
Portland, Me., 5 t. 9½ c. £162
Fustic Extract
Portland, Me., 4 t. 14¼ c. £188
Logwood
Brisbane, 3 t. 3¾ c. £37. 14s.

Linseed Oil—
Portland, Me., 8 t. 17½ c. £180
Cape Colony, 2 4 59
Shanghai, 4 11½ 85
Melbourne, 1 23

Magnesium Sulphate—
Melbourne. 5 t. £22

Manganese Oxide—
New York, 9 t. 19 c. £95

Manure—
New York, 10 t. £109
Italy, 41 17 c. 300

Oxalic Acid—
Portland, Me., 19¾ c. £35

Paint—
Singapore, 7 t. 19¾ c. £106
Adelaide, 3 17 84
Sydney, 1 7¾ 68
Brisbane, 2 7 32
Pt. Said, 2 4¼ 61

Painters' Colours—
Cape Colony, £77
Bombay, 6 t. 11½ c. 414
Adelaide, 2 ¾ 62

Paraffin Wax—
Spain, 10 t. ¾ c. £186
Cape Colony, 4 13¾ 124
Lisbon, 3 4¼ 67
Italy, 10 18¾ 289
Japan, 36 6 612
Bombay, 10 30
Bordeaux, 6 5¾ 137

Potash Salts—
Cape Colony, 27 t. 13½ c. £3,000

Potassium Bichromate—
Spain, 19 t. 8¾ c. £758
Lisbon, 188 1 376
Antwerp, 4 19¾ 192
Italy, 5 7¾ 208
Gothenburg, 5 15¾ 208
Adelaide, 7¾ 20

Rosin Oil—
Melbourne, 3 t. 12¾ c. £28

Saltcake—
Baltimore, 200 t. 10 c. £451

Soap—
Cape Colony, 3 t. 6 c. £55

Soda Ash—
Philadelphia, 50 t. £137

Sodium Bichromate—
Spain, 6 t. 16 c. £254
Lisbon, 2 13¾ 63
Italy. 16 3¾ 516

Sodium Sulphate—
Gothenburg, 1 t. 8¾ c. £10

Tallow—
Rotterdam, 7 t. 5 c. £200

Varnish—
Cape Colony, 120 glns. £57
Melbourne, 10¾ c. 36

White Lead—
Calcutta, 5 t. £59
Cape Colony, 3 17 c. 66
Halifax, 2 11½ 26
Sydney, 1 1 20

TYNE.

Week ending March 17th.

Alkali—
Amsterdam, 17 t. 10 c.
New York, 220
Rotterdam, 17 1

Ammonium Chloride—
Genoa, 7 c.

Antimony—
New York, 47 t.

Barium Binoxide—
New York, 1 t.

Bleaching Powder—
Amsterdam, 45 t. 11 c.
Hamburg, 5
Christiania, 16
Lisbon, 6 1
Libau, 10 5
New York, 149 10
Rotterdam, 44 13
Genoa, 32 12

Calcined Magnesia—
New York, 4 c.

Carbolic Acid—
Rotterdam, 5 t. 14 c.

Caustic Soda—
Amsterdam, 34 t. 10 c.
Hamburg, 5 17
Christiania, 5 11
Copenhagen, 2 18
New York, 63 16
Rotterdam, 17
Venice, 29
Salonica, 10 4

Linseed Oil—
Smyrna, 2 t. 5 c.

Litharge—
Amsterdam, 1 t. 14 c.
Hamburg, 1 3

Magnesia—
Hamburg, 1 c.
Rotterdam, 5

Magnesium Carbonate—
New York, 13 c.

Ochre—
Laurvig, 5 t. 8 c.

Paint—
New York, 1 t.
Rotterdam, 9 c.

Rosin Oil—
Rotterdam, 1 t. 16 c.

Soap—
Arendal, 1 c.

Soda—
Christiania, 12 t 8 c.
Esbjerg, 75
Bergen, 32 17
Drontheim, 6
Aalesund, 1 12
Rotterdam, 35
Amsterdam, 20 6

Soda Ash—
Hamburg, 20 t. 8 c.
Lisbon, 41 3
Aalborg, 10 6
Odense, 9 19

Sodium Hyposulphite—
Batoum, 2 t.

Sodium Sulphate—
Odense, 2 t. 12 c.

Tallow—
Hamburg, 1 t. 9 c.

White Lead—
Hamburg, 1 t. 1 c.
Bergen, 1 10
Lisbon, 6 8
Copenhagen, 1 8
Libau, 10

GOOLE.

Week ending March 14th.

Chemicals (*otherwise undescribed*)
Boulogne, 1 cs.
Ghent, 1
Hamburg, 29 cks.

Coal Products (*otherwise undes.*)
Antwerp, 50 cks.
Boulogne, 4 3 cs. 6 dms.
Dunkirk, 25
Ghent 1

Dyestuffs (*otherwise undescribed*)
Hamburg, 68 cks.

Manure—
Boulogne, 24 bgs.
Bruges, 100
Ghent, 1,185
Hamburg, 492

Pitch—
Antwerp, 974 t.

GRIMSBY.

Week ending March 17th.

Chemicals (*otherwise undescribed*)
Dieppe, 141 pkgs.
Hamburg, 5 cs.
Rotterdam, 310 bgs. 10 btls.

Coal Products (*otherwise undes.*)—
Dieppe, 89 cks.

Dyestuffs (*otherwise undescribed*)
Dieppe, 1 ck. 1 cs.

Salt—
Antwerp, 302 t.

PRICES CURRENT.

WEDNESDAY, March 28th, 1894

Prepared by Messrs. Higginbottom and Co., 116, Portland Street, Manchester.

The values stated are F.O.R. at maker's works, or at usual ports of shipment in U.K. The price in different localities may vary

	£	s.	d.
Acids :—			
Acetic, 25 °/₀ and 40 °/₀ .. .. per cwt.	6	9 &	10 9
,, Glacial .. .. ,,			50/-
Arsenic S.G., 2000° .. .. ,,	0	14	6
Fluoric .. .. per lb.	0	0	3¾
Muriatic (Tower Salts), 30° Tw. .. .. .. per bottle	0	0	10
,, (Cylinder), 30° Tw. .. .. ,,	0	3	0
Nitric 80° Tw. .. .. per lb.	0	0	1¾
Nitrous .. .. ,,	0	0	1¾
Oxalic .. .. nett ,,	0	0	3¼
Phosphoric, 1750° .. .. ,,	0	1	2½
Picric .. .. ,,	0	1	0
Sulphuric (fuming 50 °/₀) .. .. per ton	15	10	0
,, (monohydrate) .. .. ,,	5	10	0
,, (Pyrites, 168°) .. .. ,,	3	0	0
,, ,, 150° .. .. ,,	1	5	0
,, (free from arsenic, 145°) .. .. .. ,,	1	6	0
Sulphurous (solution) S.G. 1025 .. .. .. ,,	3	0	0
Tannic (pure) .. .. per lb.	0	1	1
Tartaric .. .. ,,	0	0	11
Arsenic, white powdered .. .. nett per ton	14	0	0
Alum (loose lump) .. .. ,,	5	2	6
Alumina Sulphate (pure) .. .. ,,	5	0	0
Aluminoferric .. .. ,,	2	10	0
Aluminium .. .. per lb.	0	3	0
Ammonia, Anhydrous .. .. ,,	0	1	3
,, ·880=28° .. .. per lb.	0	0	3
,, =24° .. .. ,,	0	0	2¼
,, Carbonate .. .. nett ,,	0	0	3¾
,, Muriate .. .. per ton	25	0	0
,, ,, (sal-ammoniac) 1st & 2nd .. per cwt.	39/- &		37/-
,, Nitrate .. .. per ton	44	0	0
,, Phosphate .. .. per lb.	0	0	10½
,, Sulphate (grey) London .. .. .. per ton	14	1	3
,, ,, (grey) Hull .. .. ,,	14	0	0
Aniline Oil (pure) .. .. per lb.	0	0	5¾
Aniline Salt ,, ... ,,	0	0	5½
Antimony .. .. per ton	45	10	0
,, (tartar emetic) .. .. per lb.	0	0	10
,, (golden sulphide) .. .. ,,	0	0	10
Barium Chloride .. .. per ton	6	10	0
,, Carbonate (native) .. .. ,,	3	10	0
,, Sulphate (native levigated) .. .. .. ,,	45/-	to	75/-
Bleaching Powder, 35 % .. .. nett ,,	7	10	0
,, Liquor, 7 % .. .. ,,	3	10	0
Bisulphide of Carbon .. .. ,,	11	15	0
Chromium Acetate (crystal) .. .. per lb.	0	0	6
Calcium Chloride .. .. per ton	2	5	0
China Clay (at Runcorn) in bulk .. .. .. ,,	17/6	to	30/-
Coal Tar Products and Dyes :—			
Alizarine (artificial) 20 % .. .. .. net per lb.	0	0	8
Magenta .. .. ,,	0	3	9
Anthracene, 30 % A, f.o.b. London .. per unit per cwt.	0	1	1
Benzol, 90 % nominal .. .. .. per gallon	0	1	2
,, 50/90 ,, ... ,,	0	1	4½
Carbolic Acid (crystallised 40°) .. .. .. per lb.	0	0	6¼
,, (crude 60°) .. .. per gallon	0	1	8
Creosote (ordinary) .. .. ,,	0	0	2½
,, (filtered for Lucigen light) .. .. ,,	0	0	3
Crude Naphtha 30 % @ 120° C. .. .. .. ,,	0	0	6½
Grease Oils, 22° Tw. .. .. per ton	2	5	0
Pitch, f.o.b. Liverpool or Garston .. .. .. ,,	1	7	0
Solvent Naphtha, 90 % at 160° .. .. .. per gallon	0	1	2½
Lucigen" and "Wells Oils .. .. ,,	0	0	2½
Copper .. .. per ton	40	15	0
,, Sulphate .. .. ,,	15	10	0
,, Oxide (copper scales) .. .. ,,	40	0	0
Glycerine (crude) .. .. ,,	15	10	0
,, (distilled S.G. 1250°) .. .. ,,	44	0	0
Iodine .. .. nett, per oz.	0	0	9
Iron Sulphate (copperas) .. .. per ton	1	5	0
,, Sulphide (antimony slag) .. .. ,,	2	0	0
Lead (sheet) for cash .. .. ,,	10	7	6
,, Litharge Flake (ex ship) .. .. ,,	13	0	0
,, Acetate (white ,,) .. .. ,,	25	15	0
,, ,, brown ,,) .. .. ,,	16	10	0
,, Carbonate (white lead) pure .. .. .. ,,	20	0	0
,, *Nitrate* .. .. ,,	20	0	0
Lime, Acetate (brown) .. .. per ton	6	7	6
,, ,, (grey) .. .. ,,	10	5	0
Magnesium (ribbon and wire) .. .. per oz.	0	2	3
,, Chloride (ex ship) .. .. per ton	2	10	0
,, Carbonate .. .. per cwt.	1	17	6
,, Hydrate .. .. per ton.	17	0	0
,, Sulphate (Epsom Salts) .. .. .. per ton	3	0	0
Manganese, Sulphate .. .. ,,	17	15	0
,, Borate .. .. per cwt.	2	12	6
,, Ore, 70 % .. .. per ton	4	5	0
Methylated Spirit, 61° O.P. .. .. per gallon	0	2	2
Naphtha (Wood), Solvent .. .. ,,	0	3	9
,, ,, Miscible, 60° O.P .. .. .. ,,	0	4	9
Oils :—			
Cotton-seed .. .. per ton	21	10	0
Linseed .. .. ,,	21	10	0
Petroleum, Russian .. .. per gallon	0	0	3¾
,, American .. .. ,,	0	0	5½
Phosphorus (yellow) .. .. per lb.	0	2	2
,, (red) .. .. ,,	0	2	9
Potassium (metal) .. .. per oz.	0	3	7
,, Bichromate .. .. nett per lb.	0	0	4½
,, Carbonate, 90% (ex ship) .. .. .. per ton	16	15	0
,, Chlorate .. .. per lb.	0	0	7½
,, Cyanide, 98% .. .. ,,	0	2	0
,, Hydrate (Caustic Potash) 80/85 % .. per ton	21	15	0
,, ,, (Caustic Potash) 75/80 % .. ,,	20	10	0
,, ,, (Caustic Potash) 70/75 % .. ,,	20	0	0
,, Nitrate (refined) .. .. per cwt.	1	2	6
,, Permanganate .. .. per cwt.	3	2	6
,, Prussiate Yellow .. .. per lb.	0	0	10¾
,, Sulphate, 90 % (ex ship) .. .. .. per ton	9	15	0
,, Muriate, 80 % (do.) .. .. .. ,,	8	5	0
Silver (metal) .. .. per oz.	0	2	3½
,, Nitrate .. .. ,,	0	2	10
Sodium (metal) .. .. per lb.	0	3	4
,, Carb. (refined Soda-ash) 48 % .. nett per ton (F.O.R.)	4	17	6
,, ,, (Caustic Soda-ash) 48 % .. ,, ,, (F.O.R.)	4	2	6
,, ,, (Carb. Soda-ash) 48% .. .. ,, ,, (F.O.R.)	4	0	0
,, ,, (Alkali) 58 %) .. .. .. ,, ,, (F.O.R.)	3	10	0
,, ,, (Soda Crystals) .. .. .. ,, ,, (F.O.R.)	2	17	6
,, Acetate (ex-ship) .. .. ,,	14	15	0
,, Arseniate, 45 % .. .. ,,	11	0	0
,, Chlorate .. .. per lb.	0	0	8¾
,, Borate (Borax) .. .. net, per ton.	28	0	0
,, Bichromate .. .. ,, per lb.	0	0	3¾
,, Hydrate (77 % Caustic Soda) (f.o.b.) net pr. ton (10 ton lots)	10	7	6
,, ,, (74 % Caustic Soda) ,, ,, ,, (10 ton lots)	10	2	6
,, ,, (70 % Caustic Soda) ,, ,, ,, (10 ton lots)	9	2	6
,, ,, (60 % Caustic Soda) .. ,, ,, (10 ton lots)	8	2	6
,, ,, (60 % Caustic Soda, cream) (f.o.b.) ,, (10 ton lots)	7	17	6
,, Bicarbonate .. .. ,,	6	12	6
,, Hyposulphite .. .. ,,	5	12	6
,, Manganate, 30% .. .. ,,	16	0	0
,, Nitrate (95 %) ex-ship Liverpool .. .. per cwt.	0	9	10½
,, Nitrite, 98 % .. .. per ton	29	10	0
,, Phosphate .. .. ,,	15	0	0
,, Silicate (glass) .. .. per ton	5	7	6
,, ,, (liquid, 100° Tw.) .. .. .. ,,	4	5	0
,, Stannate, 40 % .. .. per cwt.	3	0	0
,, Sulphate (Salt-cake) .. .. per ton.	0	17	6
,, ,, (Glauber's Salts) .. .. ,,	1	5	0
,, Sulphide .. .. ,,	8	10	0
,, Sulphite .. .. ,,	5	15	0
Strontium Hydrate, 100% .. .. ,,	8	10	0
Sulphocyanide Ammonium, 95 % .. .. per lb.	0	0	7½
,, Barium, 95 % .. .. ,,	0	0	5
,, Potassium .. .. ,,	0	0	7½
Sulphur (Flowers) .. .. per ton.	7	12	6
,, (Roll Brimstone) .. .. ,,	5	15	0
,, Brimstone : Best Quality .. .. .. ,,	4	0	0
Superphosphate of Lime (26%) .. .. ,,	2	7	6
Tallow .. .. ,,	28	0	0
Tin (English Ingots) .. .. ,,	73	0	0
Tin Crystals .. .. per lb.	0	0	6¼
Zinc (Spelter) .. .. per ton	15	12	6
,, Chloride (solution, 96° Tw.) .. .. .. ,,	5	10	0

THE

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CURRENT TOPICS.

PRACTICE VERSUS PRECEPT.

THE last meeting of the Mersey and Irwell Joint Committee was an interesting one, and the chances are that these meetings will grow in interest as time goes on, since the Committee are passing beyond the stage of preliminaries to practical work. Now that sewage treatment works are being put into operation the quality of the effluents will become a question of continually-increasing importance. At the same time, as Authorities begin to learn rather more about sewage treatment, they will be more inclined to criticise the strictures passed upon their effluents by the Committee. Already signs of this are perceptible, and the Committee will ere long be able to learn at their own expense, whether they have chosen well in the selection of their adviser. It would be a most unfortunate occurrence for the Committee, if it should ever happen that their immaculate and awe-inspiring chemical adviser were to be caught napping. But then, of course, it is not likely that the Committee would have done anything so foolish as to select a man they were not quite sure of, knowing full well what a serious hindrance such an act would be to the work they have in hand; so that for the present we must take it for granted that all past complaints and evidences of feebleness, are really wanting in material significance, and that their "all in all" will prove to be such. Apart from this matter, however, the Committee have been wide awake, in that they have had some of the sewage works inspected at night. This procedure has not been unproductive of good, for two works were found to be using a very simple method of disposal, which consisted of merely running the untreated sewage away. This system of disposal is a very convenient one for pollutors, but evidently the Committee intend that when advocating the use of "the best practicable means" (whatever they may be) the same shall be not employed diurnally only.

Land filtration as opposed to artificial filtration is another point which continues to crop up from time to time. The Local Government Board, it is well known, insist upon the former, and their opinions seem to be shared by some of the Committee. Such being the case, it is rather singular that the latest report of Sir H. E. Roscoe upon certain effluents should show results which certainly seem to favour mechanical rather than land filtration, on account of efficiency only; to say nothing of the difficulty of first getting land (which, in the second place, must be of a suitable nature), and further, getting enough of it.

As a case in point, at a works where two samples were taken, one of which is specified as being a sample of an effluent having been subjected to treatment on land, that particular sample is about fifteen times worse than the sample presumably subjected to mechanical filtration. In another case, land filtration comes out seven times as bad as an effluent obtained without any mention of filtration

through land. When land is proving such a thorn in the side of the Committee, these facts are worthy of something more than cursory consideration. At the same time we should not like to run any risk of being misunderstood, and so thought to consider precipitation, pure and simple, sufficient in itself. Such an argument could be answered by the same report we have just been dealing with, as one of the four most unsatisfactory effluents is that produced by a process in which no filters are employed; whereas a combined process of precipitation and filtration is shown to have yielded an effluent more than twenty times as good. Such teachings of practice are much more valuable than deductions from the most excellent theories, and should tend to strengthen the hands of the Committee.

OUT OF THE FRYING PAN INTO THE FIRE.

In the present age of strikes, whatever opinions may be held as to whether the masters or the men benefit most in the long run, the representatives of one class of labour at all events have unmistakable evidence that they cannot be quite so independent as their fellow-labourers—we refer to gas-workers. The position of this class of labour is in one way very strong, as a strike on its part so thoroughly disorganises every-day life, that it stands a good chance of speedily getting its own way. But the development of mechanical means for charging and drawing retorts has put another aspect upon the matter. Where the difficulties resulting from a strike of gas-workers has once been felt, steps have been taken in certain instances to enable the aid of mechanical chargers to be requisitioned when necessary.

But recent events have shown that even where machinery is not at hand it is not advisable to push things too far, for the gas-workers' strike at Vienna has ended in fresh hands being obtained, while considerably less than a tenth of the strikers have been reinstated; consequently some 1,700 men are now in want of employment. A most unenviable position just at present.

THE BRINE-PUMPING SUBSIDENCES DIFFICULTY.

Another lengthy inquiry as to the formation of the compensation area for the brine-pumping districts has just been held, and the Local Government Board truly seem to have a most involved and knotty question to tackle. Expert evidence is often conflicting, but geological evidence seems superlatively so. After hearing all that is to be said on both sides, it seems a very difficult matter to even decide how much importance must be attached to the various statements made by either party, let alone arriving at a decision as to whether Northwich or Winsford is individually right. Apparently it is fairer for there to be one large area and all to bear a part in contributing to the compensation fund, but arguments against such a scheme, as cogent as those in favour of it, seem to be forthcoming, while the network of interests affected almost amounts to a tangle. As long as the opposing forces are so equally matched, and so determined, the question is likely to take a long while settling. In the meantime the land in the affected districts continues to subside, even if the disputable questions do not show signs of following suit.

Messrs. F. Reddaway and Co.—On Tuesday this week, Mr. Fletcher Moulton, Q.C., made an application in Chancery, before Mr. Justice Stirling, under the Trade Marks Act, to remove three trade marks from the register which at present stood there in the name of Sir H. W. Peake, on the ground that they infringed the well-known Camel trade mark of Mr. Frank Reddaway. Counsel stated that the defendant did not contest the application, which was accordingly agreed to.

BRINE-PUMPING COMPENSATION INQUI

COLONEL DUCAT, an inspector of the Local Gove Board, opened an inquiry at Northwich on Wednesday la with regard to the arrangements to give effect to the Act giving compensation to owners of property for damage caused b pumping. The Act imposes a tax of 3d. a ton on brine pun form a compensation fund. The main point at issue is whe whole saltfield should be formed into one compensation a whether there should be two areas—one with Northwich as and the other with Winsford as a centre. The inquiry was response to a memorial signed by property owners in Northwi desire that there should be only one compensation area. It wa in the memorial that brine-pumping operations were extensively on for the purpose of salt and alkali manufacture within the are monly known as the Cheshire salt district, extending from the to of Barnton and Wincham on the north to the township of Lawton on the south, and from the township of Newton on the the township of Marton on the west. The Cheshire salt strat believed to extend through the whole of this district. The pumping operations in the Cheshire salt district was to cause sub of land and damage to dwelling-houses, buildings, and other p at considerable distances from the site of the pumping shafts or s and though the runs of brine were not definable, it was an a fact that they all passed over one connected stratum of rock salt, it was impossible to ascertain from what particular quarter th pumped up at any pumping station derived its salt. Subsiden brine pumping was going on more or less throughout the whol Cheshire salt district, and the area of subsidence was increasi by year.

Mr. W. A. Fletcher submitted the case for the memorialists. T posed district, he said, comprised 48 townships. In 38 of the were subsidences, brine pumping operations, or salt was proved existed. Twenty-four of the 48 townships were in the distric Northwich Rural Sanitary Authority, which approved of the p for one area. The Northwich Local Board had from the first favour of it. So that of the 48 townships 27 had through the representatives declared in favour of the one-area scheme Cheshire County Council, an independent body representing t payers, had also pronounced in its favour. On the general poi the cause of the damage, he said there was no actual proof one another as to the direction of the brine runs. One set of s witnesses gave one explanation, and another set another expl Under the Act the burden of proof that subsidence was not brine pumping was put on the brine pumper. He was at understand why the one-area scheme was so vigorously opposed Salt Union. There must be something behind the oppositi than was apparent from the outside. At the time of the former it had been shown that it would make no difference to the Sal whether there was one district or two. There was surely some for suspicion, in view of the fact that at the present time the Sal were paying £10,000. in retaining fees to Cheshire landowners right of pre-emption of their lands. The Salt Union had the so coupled up in Northwich that they could supply brine particular set of works from any particular pumping station. A arrangement existed at Winsford, and only a short length would need to be laid to enable the Salt Union to do all their p at Winsford and send their brine to Northwich. They wou have facilities afforded them to scuttle out of one district into where they would have less to pay. In this way the Act of Par would be rendered nugatory. Mr. Fletcher said, in concludi the property owners of Northwich had been wandering a long the land of damage, and were anxious now to get into the compensation

Mr. Freeman, on behalf of the Salt Union and other brine p then addressed the Commissioner. He protested strongly agai course which had been adopted by the memorialists. Thi second inquiry in respect of a scheme which had already been r and was therefore a serious waste of time and money. Si inquiry before the House of Commons Committee some fresh fa turned up which immeasurably strengthened the case of th opposed the Northwich scheme. He would be able to show m clusively than ever that there was no brine connection between wich and Winsford. He would prove this mainly by a referenc state of things at the pumping station at Newbridge. He woul that when the pumps were going at Winsford there was ve brine at the Newbridge shafts. When, towards the end of th pumping slackened at Winsford, the brine immediately be increase at the Newbridge works. Whatever affected the Winsford also affected it at Newbridge, and nothing that happ Northwich had any effect at Newbridge. Nothing could be than the fact that the Newbridge brine came from Winsford, from Northwich. If the run was the other way the first pla

would be Newbridge, but this was not found to be the case. bsidences which had taken place at points between Winsford rthwich, he would show they were due to quicksand, and not to mping.

Walter Scott, a sub-manager in the employment of the Salt said it would be impossible for brine to get from Northwich to d, unless it ran uphill. The sudden rush of brine in 1892 at ich was not experienced at Winsford. The Salt Union had l Riversdale and sunk a shaft there. Only a small quantity of d been found and not of good quality. Riversdale was near ich on the Winsford side.

examined by Mr. Lloyd, witness said that the inrush of brine did not affect all the shafts in Northwich. There was also a inrush in 1893. This did not affect all the shafts, nor the same ation of shafts as in 1892.

. B. Kendall, lecturer on geology to the Yorkshire College, said he had carefully examined the salt district, and had come onclusion that there was no connection between Northwich and d. There was an absolute break in the continuity of the salt tween the two places. The salt beds thinned out to a feather both sides, and between them there was a barrier or breach. confirmed in this opinion by the failure of all borings between ale and Newbridge to reach either rock salt or strong brine; by nical difference between the brine at Northwich and at Wins- by the want of sympathetic variation between the shafts at ich and Winsford; and on other grounds. He described the valley he believed to exist at Newbridge, and which separated districts. Witness also gave evidence as to depressions which, were not subsidences, but were due to other causes. The brine most invariably followed the drainage lines of the district; r the reverse was never the case. If Winsford affected North- Billinge Green, the brine would be running the reverse way to nage of the district.

examined by Mr. Lloyd, witness would not commit himself to cise details as to the glacial valley. Boring to ascertain details, was like taking soundings out of a balloon in a fog. Assuming re was a connection between Northwich and Winsford, it might ble for Northwich to pump Winsford.

Freeman replied on behalf of the Salt Union and other brine who oppose the application of the Northwich property He spoke of the ill-feeling caused between the two towns of ch and Winsford through the action of the former. On the inquiry Northwich was thoroughly well beaten, and their on to the Local Government Board for another inquiry with practically the same scheme he could only describe as un- d impudence. No new evidence had been offered in support heme, and it was a great hardship on the opponents that it ot be dismissed with costs. He examined in detail the evidence in support of his case that there was no brine con- between Northwich and Winsford. He submitted that it left that Winsford did not and could not affect Northwich. But found in the future that the pumping at Winsford did affect ch, it would then be open to Northwich to obtain their

. H. Lloyd, replying on behalf of the memorialists and Messrs , Mond and Co., said that the real opponents of the scheme Salt Union, who had done everything they could from the f the Act to render it ineffectual. It was argued on the other the *onus* was upon Northwich to prove there was a connection nsford. He thought that was not so. The policy of the Act pread a wide net, and it was for those who sought to narrow it that subdivision was possible. He referred to the question of rrier" said to exist between Winsford and Northwich, remark- the opponents of the scheme seemed to be able to extend it one another just as suited their case. He suggested that the why the Salt Union opposed the Northwich proposal was they could, in the event of there being two districts, do all mping at Winsford and so escape their share of the compensa- for the damage they would continue to do in Northwich. In o Middlewich and Sandbach, he said they could not go on without doing damage somewhere; and the fact that the did not take place in the immediate neighbourhood of these as a reason for including them in a general compensation area. oncluded the proceedings. The Inspector arranged to visit oints in the district before making his report.

CARDIFF PETROLEUM TRADE.—During last year as many as 9 gallons of petroleum were imported into Cardiff.

ERANCE SHERRY.—According to the *Medical Press*, the anshire public analyst reports on a so-called "British sherry" ll into his hands, that it was composed of sugar, a little ?), and calcium bisulphite. As it contained no alcohol it may receive the sanction of the temperance interest.

THE DEVELOPMENT OF BAUXITE.

THE mineral bauxite was practically unknown before the year 1870. In 1872 Messrs. George G. Blackwell and Alexander Sutherland arranged a lease with the Marquis of Downshire for a very large royalty consisting of 2,000 to 3,000 acres, and in a year or two afterwards produced a splendid quality of bauxite testing about 54 per cent. alumina in the dry state, and from 1½ to 1¾ per cent. iron. The demand for this mineral was then very limited, but as chemistry progressed there came numerous demands for its use in the manufacture of alum, sulphate of alumina, and alum cake, and for this purpose the property was developed and levels were driven, which produced large quantities of bauxite. At this time there was a large demand for beetroot sugar, in the manufacture of which the manufacturers discovered that a considerable quantity of waste remained, which was practically useless until Newlands conceived the idea of running liquid sulphate of alumina on to the beetroot waste, which immediately liberated the 20 per cent. of sugar and transposed the sulphate of alumina, consequent upon the potash contained in the waste, into crystal alum. This became a very profitable operation, as it produced from the practically waste substance a large quantity of sugar, and converted the sulphate of alumina into crystal alum, which was re-saleable at considerably higher figures than had been paid for it as sulphate of alumina, whilst the sugar was produced practically free of cost. Subsequently the Bauxite Company, Limited, was formed. This company have, in consequence of the increased demand for the ore, put down a new shaft at considerable expense, and enlarged the tramway and depôt to such an extent that they are prepared to deliver 2,000 tons of bauxite per week. The shaft is now completed, entirely new machinery has been erected, and improved and increased tram lines have been laid down. The ore, of the usual finest quality, has been struck at a depth of 146 feet, and the company is now prepared to supply this mineral, testing about 54·57 per cent. alumina in the dry state and from 1·5 to 2 per cent. iron oxide. This new find of bauxite has increased the value of the property to an extent that cannot at present be estimated, inasmuch as there is an enormous demand for the ore for the purposes before stated, and particularly for the purpose of producing aluminium metal, which can be done at a very low cost from this mineral, as well as the manufacture of a firebrick of a very refractory nature. The mines are situated at Strain, near Ballyclare, county Antrim. The offices are at 25, Irwell Chambers West, Liverpool. The principal shipping port is Larne. Some of the White Star Liners have called there and been supplied with tonnage for their trial trips, and on one occasion some 900 tons were loaded in the small space of nine hours. Thus the Bauxite Company, Limited, are able to supply this mineral of unequalled quality, and in quantities that cannot be produced anywhere else.

THE "WORTHINGTON" PUMP FOR SEWAGE.

SOME recent tests have been made of the new large Worthington pumping engines supplied to the Love Grove sewage pumping station at Bombay to the order of the municipality. The engines and pumps are capable of dealing with from 60,000,000 to 78,000,000 gallons of sewage per day, and for the purposes of the trial care had to be taken to ascertain accurately the slip on the pumps. Mr. James, the drainage engineer at Bombay, says: "In the trials that have been taken, the sewage discharged has been measured not only by the pumps, but by observation in the outfall sewers, and the discharges as taken by floats and by inclination due to surface of sewage come out rather more than the discharge taken from the pumps, less 5 per cent. and show the slip of the pumps with good valves to be about 3 per cent.

"The tests extended over a period of four days, and during this time the total lift of the sewage was only 22·85 ft. to 27·69 ft. The pumps lifted from 10½ to 13 per cent. more sewage than was guaranteed, and the quantity of coal used shows that the consumption was only 2·8lb. to 2.9 lb. per pump horse-power per hour. This result on so low a head is considered exceedingly good, and it is assumed to be due to the high efficiency which the system of construction of the Worthington engines adopted secures." Mr. H. A. Acworth, the Municipal Commissioner for Bombay, writing to Messrs. James Simpson and Co., of London, the constructors, states: "I have therefore great pleasure in now informing you that the engines have, to the best of my knowledge, performed their contract work throughout; that is to say, they have each lifted at least 15 million gallons of sewage in the twenty-four hours, and have never consumed more than 4 lb. Welsh steam coal per developed horse-power per hour." In comparing the figures given by these pumping trials with any taken from other engines, it must be noted that the duty mentioned has been obtained on a very low lift, with, of course, a correspondingly low possible duty; also that the duty attained was in pumping sewage—not water.

THE MERSEY AND IRWELL JOINT COMMITTEE.

THE usual monthly meeting of this Committee was held last Monday, at the offices, Mosley-street, Manchester, Mr. Alderman J. Thompson being in the chair. The Chief Inspector (Mr. R. A. Tatton) reported on the position of the ten local authorities whose extensions of time had expired. Appended to the report was a list of 18 samples of sewage effluents which had been examined by the acid permanganate process. The results on the whole were good, with the exception of Bolton and Salford. The report further stated that during the past three months, owing to the extra inspector, a larger number of visits had been paid to sewage works, the actual number being:—Sewage works, 200; manufacturing works, 1,152. A diagram showing the progress made by Authorities during the last three years was also presented.

THE REPORT OF THE CONSULTING SUB-COMMITTEE

dealt with the various cases enumerated in the Chief Inspector's report. Extensions of three months were granted to six Authorities, while three others were allowed one month. In the cases of Milnrow and Reddish Local Boards, the Clerk was instructed to take proceedings. The report also contained the following recommendation touching the position of Bolton and Salford:—

"After very carefully inquiring into and considering the effluents from the works of these two Corporations, your Sub-Committee are very strongly of opinion that they are extremely unsatisfactory, and they recommend that the Clerk be instructed to write and inform each Authority that unless their sewage effluents very materially improve before the next meeting of the Joint Committee, proceedings will forthwith be taken against them"

Mr. Killick, in moving this recommendation, said the Sub-Committee had been doubtful whether it would not have been advisable to prosecute at once in these two cases, but they had finally come to the above decision.

Mr. Brierley seconded.

Mr. Alderman Walmsley said he would like to know a little more about the chemistry on which the report as to the effluents was based. It stated: "Results expressed in grains per gallon. Oxygen absorbed from an acid solution of potassium permanganate." In the case of Salford the result was stated at 3·024 in one instance, and 3·696 in another. Now if Sir Henry Roscoe were present he would like to challenge him upon that point. He was not going into detail, though he was prepared to do so, he preferred to go more closely into the matter when Sir H. E. Roscoe was present so as to avoid any misunderstanding. He thought they ought to see Sir Henry Roscoe oftener than they did. He was not at all satisfied—not at all—at the way a good many proceedings were carried on; and before the arrangements for another year were made he should have much to say. Touching the case of Salford, he submitted that the Corporation had displayed a commendable desire and had endeavoured to set a good example to other Authorities, and ought not therefore to be proceeded against.

Alderman Scowcroft said he shared the views expressed in Mr. Ald. Walmsley's remarks. As far as Bolton was concerned, he was able to say that they were prepared to meet the wishes of the Committee, and he was sure would do so. They were glad to have an opportunity of showing their willingness to do what the Committee desired

Dr. Hewitt said he quite agreed that they ought to have Sir H. Roscoe, or Mr. Scudder, his assistant, present at the monthly meetings at all events. It was as necessary that the chemist should be present as the chief inspector or the legal adviser, and on that point he thought the Committee should inform Sir Henry Roscoe that they required his attendance at the monthly meetings. But while so far agreeing with Dr. Walmsley, he was a little surprised at the form of the objection he had taken. Objection was taken to the chemistry, but it was a remarkable fact that the same process was applied in all cases, with the result that Salford came out 36 times worse than Swinton or Rochdale. An effluent of which such remarks as "an alkaline effluent in a state of decomposition, and having a fetid odour; darkens on standing and solids in suspension increase" could be said—was surely not satisfactory.

Mr. Groves said the intention of the Committee in prosecuting was to coerce offenders, but with Salford there was no need as they were not indifferent. They had a very difficult sewage to deal with. At present a company was treating their sewage day and night. He produced a sample of the effluent.

Dr. Hewitt: Is it all like this? Is this an average sample of the whole of the effluent?

Mr. Groves: Yes

The recommendation was approved, and in accordance with the advice of the Sub-Committee the question of a deputation waiting on the Local Government Board was adjourned.

In connection with the adjourned hearing of the summons against Glossop, the Town Clerk appeared voluntarily before the Joint Committee, and consented to an order being made against the C Corporation to construct the needful works within a period of months. Two years had been asked for.

REPORT OF THE CHEMICAL SUB-COMMITTEE.

This Committee in their report divided the cases of the 89 m turers which came up for consideration into four classes, viz. Having efficient works. (B) Imperfect works. (C) Const works (D) Doing nothing.

In class A there were four firms; in class B 21, nineteen of cases the Sub-Committee proposed to adjourn. With regard remaining two, the following recommendations were made:—

W. Preston and Co., Chadderton.—This firm has put works which your Sub-Committee are informed are inefficient. therefore recommend that the Clerk be instructed to write and them that they must either undertake immediately to make them e or the Committee will take proceedings against them.

S. Heap and Sons, Rochdale.—This firm has been experin with a patent filter, but the report of the work is unsatisfactory. Sub-Committee recommend that the firm be given an extension to the end of the month, and that they be informed that durir time they must carry out efficient works, failing which proceedin be taken.

In Class C, 39 out of 44 were making satisfactory progres therefore their cases were adjourned. With regard to the ren five, the Sub-Committee recommended as follows:—

Irkdale Bleachworks Company.—This firm are now carryi works, and your Sub-Committee recommend that the considera the proceedings to be taken against them be adjourned for two n during which time they must complete the same.

R. and H. Ainsworth and Co.—This firm are also const works, and have written asking for an extension of time to the May, to complete the same The Sub-Committee recommend t extension of time for two months be given them, during whic they must carry out the works.

Eden and Thwaites.—This firm propose to carry out a large for the treatment of their waste, and have bought the land for The Sub-Committee recommend that the further consideration position of this firm be adjourned for two months, to enable t complete the works.

R. K. Roberts, Tottington, Bury.—This manufacturer is als structing works, but the Chief Inspector reports that the progr has made is unsatisfactory. The Sub-Committee therefore reco that the Clerk be instructed to write and inform him that, unl Joint Committee receive a better report before the next meetin ceedings will be taken.

John Lancaster, Harpurhey.—This manufacturer has only r begun to carry out works for the treatment of his effluent, and th Committee recommend that the Clerk be instructed to write and him that, if he has not made very satisfactory progress before th meeting, proceedings will be taken against him.

In Class D, there were 17 firms. For various reasons, howev Sub-Committee recommended that 10 of these cases should be adj for one month, and a letter sent to the effect that unless satis progress was reported by that time proceedings would be ins Three other cases were adjourned for two months. In the Messrs. N. Ramsden, of Ainsworth and Firwood, Bolton; T. V son, Little Lever; T. and G. Rostron, Levenshulme; J. W. M Holme Mill, Rawtenstall; and W. E. Buckley and Co, L Pilsworth, Bury, the Joint Committee decided to apply to the Government Board for permission to prosecute. The other mendations of the Sub-Committee were adopted. The Committ rose.

Reports of Companies.

THE THARSIS SULPHUR AND COPPER CO., LIM

The directors of this company recommend a dividend of 12 cent. per annum, equal to 5s. per share, payable tax free, for th 1893, after writing off £47,343 and leaving £14,601. to be forward.

THE NEW EXPLOSIVES CO., LIMITED.

The report of this company states that when the board took the company's affairs were in an unsatisfactory state, and the b was at a very low ebb. The directors are glad to be able to sta there are signs of improvement, and they feel justified in expre hope that the company may, at no distant period, be restore dividend-paying state. Various economies have been effected London office expenses, amounting to about £650. a year. The d since taking office have only drawn half the fees allowed by the and the chairman one-third. The investments made by the

and taken previously at cost price, have been written down to ctual market value, showing a loss of £1,300 if sold at present The balance-sheet shows a debit to profit and loss of £2,580.

THE WIGAN COAL AND IRON CO.

directors in their report for the half-year ended December state e output and sales were very materially diminished, owing to lliers having struck against a reduction in their wages The ceased work on July 28th and resumed on November 20th. It anged that work should recommence on the old terms, and that nge should be made in wages between the settlement and ry 1st. The ironworks were stopped for the greater part of the ring which the strike lasted, and trade was still very dull and table, although the furnaces were stopped for so many weeks. elworks were also stopped during the greater part of the strike, to the end of the year. Trade was so dull and prices so un- ble that it was not possible to resume work at the close of the except at a heavy loss. The trade had continued in a very bad The accounts showed a profit of £12,326 on the whole opera- f the company. The sum of £7,901 was brought forward from lf-year, making together the sum of £20,227 available for d. A dividend after the rate of 2 per cent. per annum was nended. This will absorb £18,097, leaving £2,130 to be forward. According to the auditors' statement, £21,412 was ed for depreciation, whilst the additions to plant amounted to . The debenture debt was reduced by £5,000. A dividend id during the half-year, absorbing £22,621, which, deducted ie disposable balance of June 30th, left £7,901 to be brought 1.

CHEMISTRY IN THE FOUNDRY.

question of whether the services of a chemist are either neces- ary or desirable in foundry work is attracting a great deal of n in the United States. In the course of a lengthy discussion per read before the Foundrymen's Association by a Mr. Keep, ting the value of the chemist in the foundry, considerable testi- vas given to the utility of chemistry in founding. Mr. J. E. , an instructor in chemistry at Philadelphia, said—I have spent years working in chemistry, and have made a little specialty of allurgical line. It is natural that I should, therefore disagree Ir. Keep in regard to his paper. Some statements made therein to be wrong from my own experience. He makes a statement effect that 1 per cent. of sulphur in the fuel used in the cupola t materially affect or harm the iron or castings made therefrom. ears ago I was employed with a company making a soft gray ntaining practically no sulphur, and we were shipping a lot to a well-known firm. We shipped a little order to in New York, who a few weeks afterwards sent to us a casting, de complaint as to the quality of our iron, stating that it was ble with the iron sent them to make a good soft casting. We it could not be the iron, and asked them to send us a sample. sting was white and brittle and hard. We then asked them for le of their fuel, and they sent us some pieces of very nice ite coal which they were using. I analysed it and found it con- nearly 1 per cent. of sulphur. The casting contained 0·15 per f sulphur. The sulphur came from the fuel, undoubtedly. In rticular case the sulphur made a very decided difference and their castings. The second point Mr. Keep made was that at works or blast-furnaces were foundry iron was made, chemists t employed. I am surprised that he should make that state- I am certain that on inquiry it would be found that nine out of uch concerns employ them, and a chemist is quite an important the furnaces. I hope he has not read his paper, because if he iron chemist has no business upon the earth, and personally I hate to be cut off in the glory of my youth. The argu- he brings up in regard to the non-employment of a in foundry practice is about the same as that brought up ears ago. I think no one will deny at the present time the f a chemist in steelworks. If that is the case, why should he valuable in the manufacture of castings? I am willing to admit nan cannot make good castings by mixture alone. If a chemist laboratory, and were simply to analyse iron there, the best from his services would not be obtained. But if he were to go foundry and see the conditions under which castings were made, no doubt his knowledge of chemistry would be turned to advan- Chemistry will not do everything. I am inclined to think that ep's opinion is based on the idea that he would employ men m college, knowing little, but who would make all kinds of ns, which would not pan out. That kind of chemistry would much good. Simple theoretical knowledge does not answer in nufacturing line, it requires some practical work; and when the combined, you have something which will prove of value.

A practical founder also took exception to Mr. Keep's statement of the necessity of changing one iron at a time in the regulation of a mixture. This is certainly a wise precaution in ordinary practice, but by the chemical method we are perfectly at liberty to change every iron in the mixture at short notice. In fact, he said, for the next day's mixture of 50 tons of a car-wheel iron he had changed nearly every iron in the mixture excepting the scrap, without looking at the grain or having made any physical test of any of the irons, the calculation being made simply from the figures of the analyses, and no doubt the result would be satisfactory as usual.

Another founder stated that previous to employing a chemist his firm very frequently had to anneal all small castings. This has been almost the universal practice. Now they do not have to do it. We used, he said, to calculate that it would cost us at the least ¼ cent. per pound for this. We do not anneal now, nor do we have any castings sent back to us because they are hard. We also use our chemist in the purchase of material, and we find we have an advantage in that. Some irons, if they do not come up to agreement, are refused by us. We find we can buy and use a great many things that we once thought we could not utilise. Recently, when buying some coal oil that was warranted to be 150° fire test, we found part of it to be 104°, another part 109°, and the rest 120°. The same inspection may be given to purchases of lard oil, coke, and coal. With regard to coke, he got one car of coke that contained a fraction over 1 per cent. of sulphur. He notified the shippers, and they replaced it with a car of the best coke he ever had and the most free from sulphur.

SOCIETY OF CHEMICAL INDUSTRY.

SCOTTISH SECTION.

THE April meeting of this Section took place in Edinburgh on the evening of Tuesday, the 3rd, Mr. R. Irvine, the Chairman, presiding. The main feature of the occasion was a paper by J. B. Readman, D.Sc., F.R.S.E., Edinburgh, on "The Effect of the Saline Constituents of Water on the Character of Beer." The paper included a detailed description of experiments in the process of brewing beers with water containing various saline constituents, using in each experiment the same quantity of malt, hops, and yeast. Before these experiments were commenced, analyses had been made of the malt and hops which were to be used, the results of this analysis being embodied in the paper, which gave a general description of the brewing processes employed by the author, and supplied details carefully tabulated under each experiment. Beer was first brewed with pure distilled water; then with waters containing chlorides, carbonates and sulphates of calcium and magnesium, nitrates, chlorides, sulphates and carbonates of the alkalis; with water containing the various saline constituents of a typical but artificially prepared Burton water, and finally with Edinburgh gravitation water. Except in the two last-named cases, and in the one couducted with pure distilled water, the waters were all artificially prepared by dissolving 50 grains of each of the above-named salts in one imperial gallon of distilled water, and carrying on the brewing process, throughout, with each salt so dissolved. In this way 13 distinct experiments were carried out. The lecturer commented generally on the character and appearance of the beers at various stages, and illustrated his matter by specimens of the sterilised worts, as also malt, hops, draff, spent hops, and finished beers, explaining that the fermentations were carried out on a systematic plan, temperature being carefully and uniformly regulated, and the rate of attenuation each day observed and noted. The paper concluded by full analyses of the 13 specimens, showing the specific gravity, percentage of alcohol, extract, nitrogen, ash, phosphoric acid and acidity, in each of the finished products. Dr. Readman closed by saying that, so far as he judged—his view of it being confirmed by an important treatise on brewing recently published in this country—the saline constituents of water and their effects on brewing had not received from chemists that amount or quality of attention which the subject deserved. It was with the view of adding to the desiderated information that the results of these experiments had been brought before the Society. After the reading of the paper, which was followed by members with the closest interest throughout, Dr. Readman exhibited and described a convenient size "electric furnace," suitable for use in laboratories, with access to a moderate current of electricity. This small furnace works with a current of about 20 amperes, at 60 volts, and is extremely useful for electro-chemical experiments.

This being the Annual General Meeting of the Section, Mr. J. S. Muir, the secretary, presented his report on progress, showing that during the year the membership had increased by 20. Mr. Robert Irvine, of Edinburgh, was formally appointed Chairman, and the list of office-bearers was re-adjusted on the lines recommended by the Committee. Hitherto the official title of the Section has been the "Glasgow and Scottish." It was agreed that for the future it is to stand as simply the "Scottish Section."

MECHANICAL SAMPLING.

THE accurate analysis of large bulks of material, whether for the purpose of commercial valuation or as a guide to their subsequent treatment, is a matter of the greatest importance to the chemical engineer. The first step in determining the composition of a large bulk of material is to obtain a small portion of it that is of a truly average representative character, for the purpose of analysis.

The selection of a true "sample" is one of the most difficult of practical operations, yet considering its importance and the great values it controls, it is surprising that this operation should not have been more completely developed long ago, and brought as far as possible out of the domain of chance, haphazard, and personality, into some degree of that precision which is so characteristic of the subsequent work of the analytical chemist.

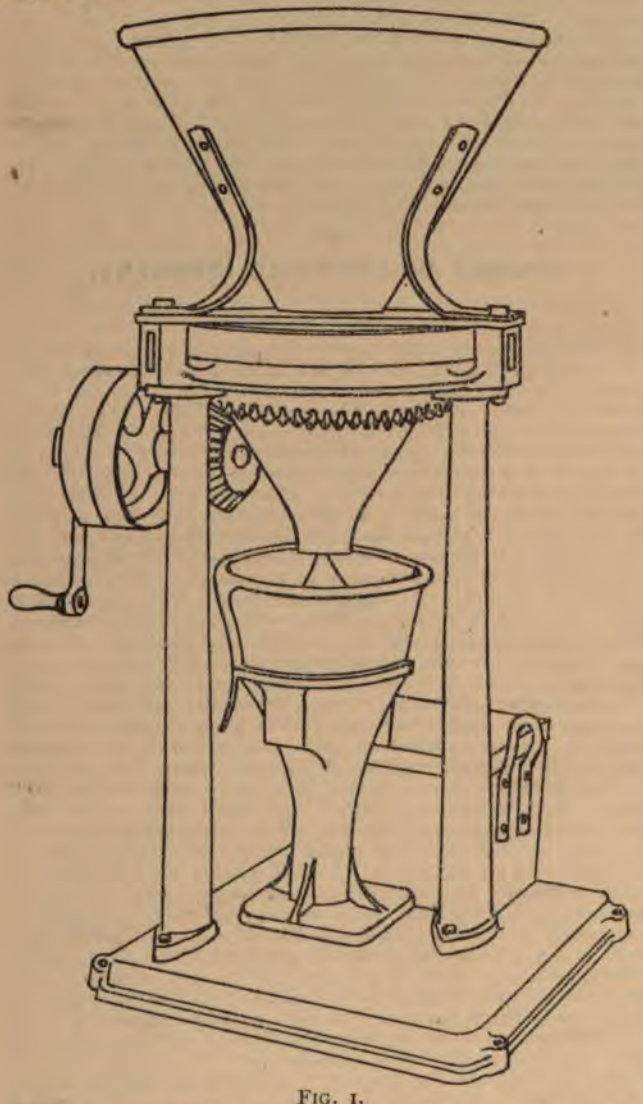


FIG. 1.

It is common knowledge that the variations in analysis are more frequently due to defects in the sampling than to anything else. Methods and means of analysis have been brought to a high degree of perfection, and by far the weakest link in the chain of operations which extends from a large bulk of material to the report of the analyst is undoubtedly the operation of sampling. Recognising this, it is clear that any further attempts to improve the quality of the work should be first directed to placing this operation of sampling upon a sound basis, rather than the further perfecting of the methods of analysis.

Sampling by machine is a new departure, and like all new departures, its value is not at once appreciated. But it needs not much consideration to decide upon the relative values of hand and machine sampling, when the facts are before us. Briefly, they are as follows:

(a) The ordinary average work of the machine sampler is always equal, if not superior, to the very best and most experienced hand sampling. *(b)* It is not liable to the variations of accuracy pecul the human machine. *(c)* The cost of machine sampling is less one-tenth (in some cases one-sixtieth) of that of hand sampling. *(d* results can be obtained in much less time than by hand. *(e)* sample boxes may be construc ed to lock up, thus placing the ma beyond the range of temptation. *(f)* The great simplicity o machine makes the outlay for repairs practically *nil.*

These advantages are highly satisfactory, and it is therefore s predict that the technical intelligence of our manufacturers and will soon cause these machines to be very extensively adopted. serious consequences of a false estimate of the value of material appreciated by all practical men, but may nevertheless be w refer to one typical case.

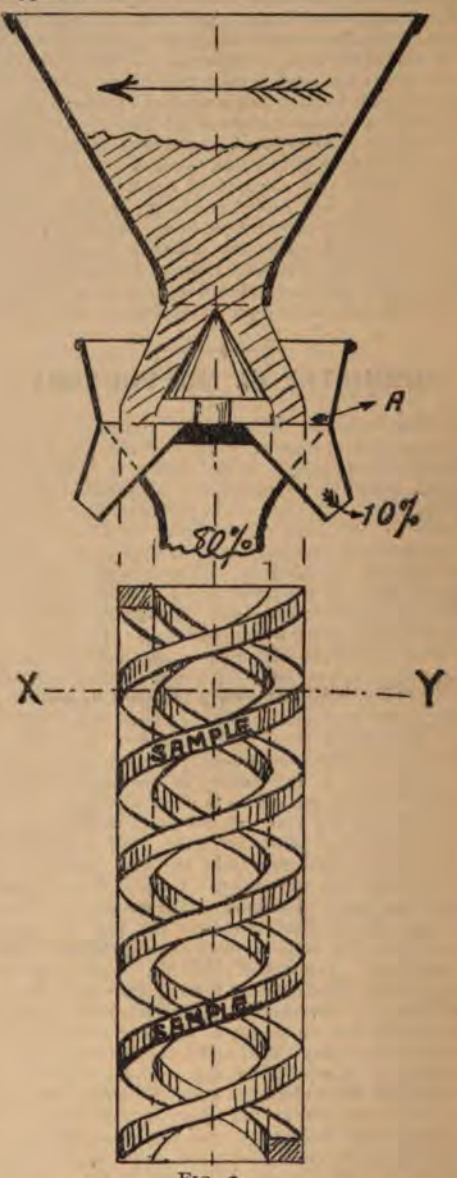


FIG. 2.

The chemical manure manufacturer stands to lose either mone reputation in consequence of an error in the analysis of his phosp If the phosphate is valued too highly, he will use less of it than he o to in making a fertilizer to a given specification, and the result ma loss of reputation; on the other hand, if the analysis be low, he lose money by using more phosphate than is necessary, and thus ordinary methods of sampling he has to allow a considerable margi be certain of covering these errors, which means a corresponding re tion in the margin of profit.

If he had reliable and precise information as to the value of the materials, he could produce a mixture of specified quality with confidence and economy. Without this trustworthy information, e economy must be sacrificed to confidence or confidence to economy

To make it possible to obtain such information,

The "Rapid Sampler."

been devised by Mr. T. Clarkson, of 59, Mark Lane, on. The sampler is suited to the sampling of a great er of materials, and especially will both it and the ratory Divider. which has been brought out by the inventor, be found useful under the new Fertilizers and ing Stuffs Act. The sampling of sticky or pasty materials by means is machine however, requires, further development at present. rtheless, the utility of the machine for numerous other purposes is while its action is as accurate as it is scientific, and yet simple l. Our first illustration (Fig. 1) gives a perspective view of a Sampler with one box removed, showing an extra feed hopper, and or power driving gear.

Fig. 3.

principle of the machine has already been described in these ns (*C. T. J.* 355, p. 162), but a brief recapitulation of the salient es of the machine will materially add to the interest of our ations. The machine is designed to form a revolving hollow er of the stuff to be sampled, intercepted by a plate which passes tain percentage of the bulk for a sample and rejects the nder.

. 2 shows in the upper portion a diagramatic section of the *ng* hopper, cone and spouts, the rotating hopper discharging aterial in a revolving stream, which is divided on the cone. The

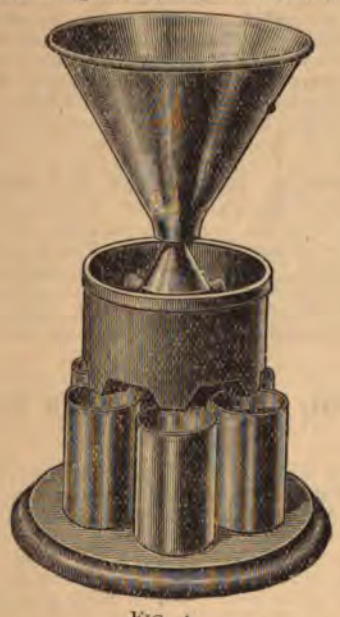


Fig. 4.

ower part shows how when set to take two 10 per cent. samples, cent. is removed in two equal portions by the intercepting plate the remaining 80 per cent rejected.

lowest portion of Fig. 2 shows how, as must necessarily be the ith an annular rotating stream of material, a helical path is cut out segmental plate which divides the sample.

3 represents a section on the line **X Y** by the aid of which the natical beauty of the segmental principle is indicated. The of the segments will be seen to be truly radial, varying in nce with the periphery of the circular current of material, and se the percentage of material removed simply depends upon the angle between the spout edges. If 10 per cent is required, the angle must be 36 degrees or 10 per cent of the circle.

The machine can easily be set to take either a 10 per cent or a 5 per cent sample, and for an example of the accuracy with which any desired percentage of material is removed we would refer our readers to our previous remarks on this subject in our back numbers. As an accessory to the "Rapid Sampler," Mr. Clarkson has patented a

New Laboratory Divider.

This machine is one of the most remarkably simple and efficient contrivances that has ever been devised to facilitate the work of the Analytical Chemist and Assayer, and when it has once been used, it is certain to be regarded as an inestimable boon to every properly-equipped laboratory.

It will divide up material into six equal and exactly similar portions in less than the same number of seconds. Assays made from any of these portions are certain to agree. The machine can be also used for sampling small "parcels."

Fig. 4 conveys a sufficiently explicit idea of this divider. The principle is precisely the same as in the sampler, the hopper which revolves on steel ball bearings being set spinning by a stroke of the hand and the sample tossed in. Another slight touch to the hopper after the material is in, will generally suffice to keep it gently spinning until the material is through. Lift off the cone and dividing cup, and six equal and similar samples will be found in the cases.

Two such contrivances are undoubtedly great advances towards attaining perfection in mechanical sampling. The experience of previous similar attempts in the United States was not encouraging, but these two machines are a distinct improvement upon former ideas, being based upon scientific principles and certainly are a striking illustration of how closely at times scientific theory can be followed out in practice.

Selected Correspondence.

SALFORD SEWAGE WORKS.

(*To the Editor of the Manchester Guardian*)

Sir,—I have read with much interest the remarks of Alderman Walmsley at the last meeting of the Mersey and Irwell Joint Committee. I agree with Dr. Walmsley, and most emphatically protest against the report of the analysis of the Salford effluent (*vide* this issue of the *C. T. J.*) I am surprised that such an analysis should be submitted to the Committee, violating as it does the very rudiments of analytical chemistry. Every tyro in the science is aware that the application of the acid permanganate test to a water containing salts of iron is utterly fallacious. Salford for the last few months has been using the salts of iron for the purification of sewage. It would be just as foolish to condemn the clear chalybeate stream which runs through Buxton, because the amount of oxygen absorbed from an acid solution of potassium permanganate would be much greater than the amount absorbed under like conditions by the Salford effluent.—I am, &c.

The Cliff, Higher Broughton, April 3, 1894.

J. Carter Bell, County Analyst.

ANSWERS TO CORRESPONDENTS.

S. W.W. We shall be pleased to do so.

R. R. and Co.—(1) It has been sent. (2) By direct communication.

T C.—Yes, as soon as done with. They will not be wood-cuts.

T. H. E.—Thanks for communication duly received. It shall have our attention.

J. W. F.—We should like to do so when the time comes.

J H. B.—By post.

Senex.—Up to May or thereabouts.

Questioner.—It is the fault of your agent. We have no means of knowing, we would rather we had. It will be sent.

Raising the Sulphur Standard for Gas.—The gas referees for the metropolis have issued their new regulations for the summer, which, as usual, provides for the reduction of the maximum quantity of sulphur permissible in the gas, from 22 down to 17 grains per 100 cubic feet. In addition, however, the definite rules as to the candles to be used in making photometric tests are to be brought into force (*C. T. J.* 345, p. 417). On this account the regulations are of more than ordinary interest.

The Registrar of the Institute of Chemistry.—We much regret having to announce that Mr. G. H. Robertson, the active and able secretary and registrar to the Institute, has been compelled to resign his office owing to a serious illness, from which there is little hope of his recovering. During the present session Professor J. Millar Thomson has consented to act as honorary secretary and registrar; while Mr. R. B. Pilcher, who acted as assistant to Mr. Robertson, has been appointed assistant secretary.

THE GAS SUPPLY OF LONDON.

THE quality of the gas supplied to the City of London for the week ending March 24th, 1894, was good. According to the report of Mr. W. J. Dibdin, chemist and superintendent gas examiner to the London County Council, the tests made at the various testing stations showed no deficiencies in illuminating power. The following figures have been prepared from the report, and show the average composition of the gas calculated on the mean test:—

Company.	No. of districts tested.	Illuminating power (in stand. sperm candles). Mean average.	Sulphur. Grains in 100 cb. ft. Mean average.	Ammonia. Grains in 100 cb. ft. Mean average.	Sulphuretted hydrogen.
Gas Light and Coke Co.	13	16·26	11·04	0·27	Nil.
South Metropolitan Gas Co.	6	16·40	11·61	0·33	Nil.
Commercial Gas Co. ..	2	16·10	8·45	0·45	Nil.

The standard gas supplied by these companies should have an illuminating power of 16 sperm candles, and contain not more than 22 grains of sulphur and 4 grains of ammonia per 100 cb. ft. of gas on an average of three days with a pressure of one inch between sunset and midnight, and six-tenths of an inch between midnight and sunset.

Trade Notes.

RESTARTING A SUGAR REFINERY.—Messrs. Walker's sugar refinery, Greenock, which has been closed for about a couple of months, has resumed melting during the week.

DONATION TO A TECHNICAL SCHOOL.—It has transpired that the Glasgow and West of Scotland Technical College is to receive a donation of £25,000. from the Bellahouston trustees.

THE DISPUTE IN THE PATENT FUEL TRADE.—The dispute at the Graigola Works still continues. The pitch men who had resumed work have declined to continue unless the fuel shippers who are still out are restarted at the old rates.

THE NEW FOOD ADULTERATION BILL.—In the House of Commons on Wednesday this week, a Bill to amend the Sale of Food and Drugs Act, 1875, and the Margarine Act, 1887, was brought in by Sir Charles Cameron, and read for the first time.

REDUCING THE PRODUCTION OF COAL IN GERMANY.—A meeting of the Board of the Rhenish Westphalian Coal Syndicate was held at Essen recently, when the report of the directors was presented. It showed that the sales for 1894 so far amounted to 12,304,000 tons, of which 10,488,000 tons were for home consumption. In view of the fact that delivery contracts will expire in the course of next month, and that dealers may consequently be expected to hold aloof, it was unanimously decided to authorise the directors to make a further reduction of 12 per cent. in the output, which will thus be 20 per cent. less than before the first reduction.

THE GERMAN SODA INDUSTRY.—The German Society for the protection of Chemical Industries, in speaking in its report of the future of the soda industry says the prospects are if anything more doubtful still than ever because a new kind of opposition appears on the horizon in those firms who intend to enlarge their establishments, and lay down new plant with a view to increasing their profits by making soda and chloride of lime by electrolytic processes from common salt. As we are aware by this process more than double the quantity of chloride of lime than soda is to be obtained from the salt, and considering that the sale of the former is relatively a limited one, by this new departure the producer of chloride of lime will suffer first. (Germany produced 25,000 tons against 200,000 tons of soda in 1892.)

CHEAP GAS FOR MANCHESTER.—The Manchester and Salford Noxious Vapours Abatement Association has memorialised the Gas Committee of the Corporation of Manchester in favour of a great reduction in the price of gas. As compared with the advantages to the community of a relatively pure atmosphere, the object of securing a profit, however large, out of the gasworks is, the memorialists submit, unimportant. The only effect of making a profit is to relieve one section of citizens at the expense of another, and while the gas supply is a monopoly it is as unfair to do this as it would be to differentiate taxation for libraries, parks, or other conveniences provided by the Corporation. The memorialists say that the reason formerly given for not encouraging a rapid increase in demand for gas, viz., that the producing power was inadequate, no longer exists, owing to the extensions recently made and the effect of introducing the electric light, which must tend to considerably relieve the pressure upon the works. They do not ask for supply at cost price, but only a reduction to say 2s. per 1,000 cubic feet within the municipal boundaries.

Market Reports.

MISCELLANEOUS CHEMICAL MARKE

In the alkali market there is little change to report in the of any of the staple products. Prices remain as quoted for so past, and current quotations for caustic soda are as follows: Tyne, 77%, £10. 7s. 6d.; f.o.b. Liverpool, 74%, £10. 2s. 6d. £9. 2s. 6d.; 60%, £8. 2s. 6d.; cream, 60%, £7. 17s. 6d. in 10-ton lots and upwards. In soda ash the market is without for Leblanc makes at 1d. per degree, f.o.b. Ammonia soda, still quoted in some districts as low as £3. 2s. 6d., bags, f.o.r., some makers decline to sell at this price. Bleaching powder co in good request at £7. 10s. f.o.r. makers' works. Chlorate of 7¼d. per lb., soda 8⅜d. Bicarbonate and soda crystals alteration. For sulphate of copper the demand is still ac £15. 10s. to £15. 15s., f.o.b. There is no improvement in the of acetates, all products in this line being much depressed potash, caustic and carbonate, and potash salts generally, the is fairly good, and prices are firm all round. White powdered is still very scarce, and price is steady at £14., nett Garst Prices of vitriol and muriatic acid are unchanged. Ammon continue to hold a strong position, prices are as follows: muriat carbonate 3¾d. (lump), and 4d. (ground). Salammoniac, 3 37s. for first's and seconds respectively. Oxalic acid very firm a Prussiate of potash 10¾d. Sulphocyanides are in better dema prices are: barium 5d., ammonium 7d., sodium 5½d., potassiu per lb.

REPORT ON MANURE MATERIAL.

Since the holidays the market, except for nitrate of soda, h rather quiet, manufacturers being busy getting out their manu indisposed to consider the purchase of further material. phosphates seem to be scarcely so firm. Buyers are for the m largely contracted ahead for the higher grades, and prices as the lower grades, such as South Carolina, are too high to en any large buying. For 75/80% Florida rock the nearest probably 8½d. per unit for Continent, and 8¼d. for good Kingdom ports. For South Carolina River rock 7¾d. per uni the asking price, and raisers meantime refuse to entertain a concession upon this figure. There is nothing to report in Riv bones. Sellers' idea of value of cargoes for Summer-autumn sh is £4. 15s., but buyers don't seem inclined to give the price meantime. Bombay bone meal is selling in retail at £5. 7s. ton, ex quay Liverpool, but for April shipment £4. 17s. 6d. w accepted for quantity. Common grinding bones are worth £4. and £4. 10s, according to quality, ex quay Liverpool. There h much excitement in the nitrate market, and price on sp advanced to 10s. 3d. to 10s. 4½d. per cwt, according to test, cargoes are worth 10s. 1½d. to 10s. 3d. per cwt., but for later considerably less would have to be taken. The heavy drain u stocks in Continental ports continues, and arrivals so fa altogether failed to relieve the pressure, so that a further adv price may almost certainly be looked for. A small parcel o Plate dried blood, arrived at Liverpool, has been sold at 10s. unit, ex quay.

LIVERPOOL OIL AND COLOUR MARKE

WEDNES

OILS.—Palm oil is decidedly dull, and what sales have bee have been effected at easier prices, with Lagos at £20. 15s. quoted £30. to £37. per tun, according to quality, but is demand. Linseed is easier, but sells slowly even at the lower tions of 21s. to 21s. 3d. per cwt. for Liverpool makes in export Cottonseed, Liverpool refined, is scarce and firm at 20s. 6d. to per cwt. Castor oil is steady, and in fairly good demand seconds Calcutta is to-day somewhat slow of sale at 2⅜d. t First pressure French and Belgian are worth 2 3/16d. per lb. Ta steady, but prices are nominal, and the demand quiet. S resin are low for common and medium qualities: quotations former are 3s. 9d., and the latter 4s. 4½d., for which pric parcels are firmly held. Spirits of turpentine are easier, and moderate request to-day at 22s. 6d. per cwt. Petroleum is very prices are unchanged, but nominal at 4¼d. to 5½d. for Am according to quality, and 3⅝d. to 3¾d. per gallon for Russian

COLOURS are steady without alteration in Ochres: Oxfordshire, common, £10., medium, £12., best, Derbyshire, common, 40s.; medium, 50s., best, 60s.; Welsh

econds, 50s., and common, 18s.; Irish, Devonshire, 40s. to French, J.C., 55s. to 60s.; M.C., 65s. to 67s. 6d. Umber: h quiet; Devonshire, 50s. to 55s. White lead, and oxide c unchanged. Venetian red, £6. 10s. to £10. Cobalt: ed oxide, 9s. 9d.; black, 9s.; blue, 6s. Zaffres: No. 1, ; No. 2, 2s. 6d. Oxide of iron: Common, £6.; medium, finest, £20. Zinc oxide, £23. to £25.

TAR AND AMMONIA PRODUCTS.

price of 90's benzol is a fraction firmer at 1s. 2½d., while 50/90's lterd at 1s. 4½d. Solvent naphtha does not seem to vary much, ude is a fraction lower than quoted last week. Carbolic ystals and crude 60% continue firm in position and price. Pitch quoted 27s. 6d., f.o.b. East coast. The price of anthracene in rades is also unaltered.

hate of ammonia is decidedly easier. Lower prices were ated with the beginning of this month, but there is apparently on why any serious decline in value should take place, as stocks t pressing particularly, even though Continental business is Beckton value is now £13. 16s. 3d., London outside makes 5s., Liverpool £13. 15s., Hull £13. 15s. to £13. 12s. 6d., Leith 5s. Nitrate is firm, and on the advance.

THE METAL MARKETS.

NDON, WEDNESDAY.—Pig iron, steady: Scotch warrants at 43s. 1½d., Middlesbrough 36s. 5d. cash, and hematite ½d. Copper, quiet: Chili bars, G.O.B.'s and G.M.B.'s, closed . 2s. 6d. to £41. 7s. 6d. cash, and £41. 12s. 6d. to £41. 17s. 6d. months. Tin, unsettled: Straits closed at £70. to £70. 10s. nd £71. to £71. 10s. three months; Australian, £70. 17s. 6d.; n ingots, £75. to £75. 10s. Lead, quiet: Spanish, £9. 2s. 6d. 3s. 9d.; English, £9. 5s. to £9. 7s. 6d. Silesian spelter, y, £15. 16s. 3d. to £15. 17s. 6d. Nickel, 1s. 8½d. Antimony, 10s. Quicksilver: first hands and second hands, nominal. *shares*, firm: Cape, 1⅜ to 1½; Copiapo, 1¾ to 1⅞; Libiola, ¼; Mason and Barry, 2⅜ to 2½; Rio Tinto, 15⅞ to 16; s, 4⅞ to 5⅛.

LVERHAMPTON, WEDNESDAY.—A stronger tone in business though transactions related mostly to small orders. Prospects quarterly meetings were believed to be better. Local cinder e quoted 37s. to 38s. 6d., medium 44s., and all-mine hot blast Midland brand averaged 44s. Finished iron steady: common 5. 10s.; merchant iron, £6. 10s; hoops ditto, angles, £6. 15s.; ip, £5. 15s.; rods, £7.; black sheets (doubles), £6. 10s. to s. 6d.; and galvanised qualities unaltered. Steel rather brisk.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, TUESDAY.

hate of ammonia has for the time lost its tendency to steadily , and between now and the beginning of last week there has ther a serious falling off. The quotation for prompt to-day is 7s. 6d. to £14. with most of the makers unwilling to entertain er figure, but some of them nevertheless doing so.

eral oils and paraffins are all if anything even quieter than they st week, but with no positive further drop, except perhaps in the paraffin spirit (naphtha), which is said to have been done under gallon, works delivery.

heavy general chemicals are for the most part very well inquired ut no corresponding show of resulting business, and prices in ases are inclined to droop, both caustic and crystals being easier. romate of potash and bichromate of soda are reported as in some improved condition of inquiry. Prices stand unchanged at the iation fixtures of the Scotch makers.

chemicals are in rather better demand, in sympathy with the busier tone throughout the Scotch dyeing and calico printing

f prices current are:—Soda crystals £2. to £2. 5s. nett, Tyne; h 48/52° £3. 12s. 6d. to £3. 16s. 3d. nett, Tyne; white alkali £4. 10s to £5. 5s. nett, Tyne; alum in lump £5. 10s. nett, Glasgow; soda, white, 74° £10. 5s., 70/72° £9. 2s. 6d., 60/62° £8. 2s. 6d., eam 60/62° £7. 17s. 6d., all nett, Liverpool; bleaching powder s. to £7. 10s., nett, Tyne; saltcake, 17s. 6d.; borax, English , £30. and boracic acid, £37. 10s. nett, Glasgow; bicarbonate of -cwt. casks, £6. 10s., and 1 cwt. casks £6. 15s. nett, Liverpool; nate of potash, 4½d. nett, for Scotch and English deliveries (for 4¼d. nett, f.o.b. Glasgow); bichromate of soda, 3¾d. nett, for and English deliveries (for export, 3½d. nett, f.o.b. Glasgow); e of potash, 7½d. less 5%, Liverpool; nitrate of soda, 10s. 1½d.; te of ammonia prompt, £13. 17s. 6d. to £14., nett, f.o.b. Leith; salammoniac, first and second white, £39. and £37. nett, any port; sulphate of copper, £15. 10s., less 5% Liverpool; paraffin scale, hard 1⅞d. per lb.; soft 1⅞d. to 2d.; paraffin wax 120° semi-refined 2⅜d. to 2½d.; paraffin spirit (naphtha), 3½d. to 4d. per gallon; paraffin oil (burning), standard No. 1 grade, 5d. at works, for Scotch buyers (English sales, ½d to ¾d. lower); ditto (lubricating) 865° £3. 12s. 6d. to £3. 17s. 6d.; 885° £4. to £5., and 890/895° £5. to £6. Week's imports of raw sugar at Greenock were 16,418 bags, and 1,500 other packages (unspecified).

HULL PAINT, OIL, AND COLOUR REPORT.

TUESDAY.

Some consternation was caused here on Monday morning by the stoppage of the Kingston Cotton Mills of this place, which employed about 1,300 hands, and having about 100,000 spindles. The establishment of these mills was an attempt to out-bid the competition of the Lancashire district. This port being a ready means of import and export, it was anticipated that this saving of railway carriage would enable the company to pay handsome dividends. However, it is said that they could not compete with other centres of the industry; others say it is a want of capital.

OILS.—The market here appears to be fast recovering from the effect of the holidays, and generally has a healthy tone. Amongst the principal imports up to date, compared with the same time a year ago, are the following:—Linseed, 129,701 qrs., against 39,426 qrs. Rapeseed, 38,296 qrs, against 14,695 qrs. Cottonseed, 77,493 tons, against 85,641 tons. Olive oil, 4,826 casks, against 3,571 casks. Rape oil, 2,239 casks, against 2,401 casks. Oil cakes, 7,295 tons, against 4,807 tons. Tallow, 4,624 cwts, against 7,957 cwts. Bones, 2,373 tons, against 2,191 tons. Turpentine, 4,300 barrels, against 3,145 barrels. Linseed oil has declined about 7s. 6d. per ton, closing with sellers at 18s. 7½d. naked spot, April or May-August; for last four months 18s. accepted; export for the fortnight, 2,340 cwts. Refined Cotton oil has improved about 5s. per ton, closing with buyers at 18s. 6d. naked spot or for next month; May-August, 18s. 10½d. to 19s. accepted. Export of refined oil, 9,500 cwts. Castor oil, 2¼d. per lb. for first pressure. Spirits of turpentine, 23s. per cwt. Olive oil from £31. per tun. Cod oil from £17. to £19. per ton. Sod oil from £16. per ton. Pale seal oil, £20. per ton. Brown wool grease, £8. per ton. Engine and cylinder oil from 1s. to 2s. per gallon.

CAKES.—Linseed cakes quiet but steady: 95 per cent. pure, £8. to £8. 5s.; Russian, £7. 10s. to £7. 15s.; Polish, £7. 15s. Oil cakes, £6. 15s. to £6. 17s. 6d. Cotton cakes: A better demand, with firmer market; best makes, £4. 12s. 6d. Rape cakes: East India, £4. 10s.; Black Sea, £3. 12s. 6d. to £3. 17s. 6d.

PAINTS.—Orders plentiful, without alteration of prices: White lead in oil, £17. 10s. per ton; oxide of zinc paint, £22. per ton; red lead, dry, £13. 10s per ton; Venetian red, dry, from £6. to £10. per ton; oxide of iron, dry, from £9. to £18.; ochres from 60s. per ton; ready-mixed paints from £26. per ton; lime blue, from 14s. to 20s. per cwt.; oak varnish from 5s. 6d. per gallon; common black varnish, £5. 10s. per ton, in barrels free.

TYNE CHEMICAL REPORT.

TUESDAY.

Chemicals are still quiet, though inquiries are more numerous. Soda crystals are quoted at £2. 2s. 6d per ton locally; bleaching powder, £7. 5s. per ton; caustic, 76/77%, £10. 10s. to £10. 15s. Sulphur dull at £4.

Bleaching Powder, softs, £7. 10s. per ton, nett; hards, £7. 15s per ton, nett; caustic soda, 76/77%, £10. 15s. per ton, nett; do., 70%, £9. per ton, nett; recovered sulphur, 2 cwt. bags, £4. per ton, nett; soda ash, 48%, £3. 12s. 6d. per ton, nett; do., 52%, £3. 16s. 3d. per ton, nett; do., 56%, £4. per ton, nett; alkali, 36%, £2. 15s. per ton, nett; white alkali, 48%, £4. 10s per ton, nett; do., 50%, £4. 15s. per ton, nett; do., 52%, £5. 5s. per ton, nett; hyposulphite of soda, 5-7 cwt. casks, £5. per ton; do., 1 cwt. kegs, £5. 10s. per ton, nett; silicate of soda, 75° Tw., £2. 17s. 6d. per ton, nett; do., 100° Tw., £3. 12s. 6d per ton, nett; do., 140° Tw., £4. per ton, nett; soda crystals, casks, £2. 2s. 6d. per ton gross weight; do., 2 cwt. bags, £2. 2s. 6d. per ton, nett; chlorate of potash, 7½d. per lb., less 6%; pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £4. 2s. 6d. per ton, nett; blanc fixe, £7. 10s. per ton, nett; chloride of barium, £7. 10s. per ton, nett; carbonate of alumina, £28. 15s. per ton, nett; aluminate of soda, £33. 15s. per ton, nett; in 5 ton lots, £28. 10s. per ton, nett.

South Durham Salt firm at 9s. 6d. and 10s. per ton, f.o.b. Tees.

Coals.—Prices generally continue to be maintained, though demand is only slow. Best Northumbrian steam, 10s. per ton, nett; second qualities do., 8s. 6d. to 9s. per ton; small steam steady, 4s. 6d. per ton, nett; gas coals firm at 7s. 6d. per ton, nett; bunker coal, 7s. to 7s. 6d. per ton, nett; coke unaltered, at 15s. per ton.

THE COPPER MARKET.

Messrs. Harrington and Co, in their fortnightly report, dated Liverpool, April 2nd, state:—

Chili charters for the second half of March are advised as 750 tons, which with the same figures for the previous fortnight makes 1,500 tons for the month. The total since December 31st is 4,750 tons, against 4,650 tons same time last year. Exchange 13 3/8d.

Since our last the market for G.O.B.'s and G.M.B.'s has been quiet, and values have fluctuated between £41. 8s. 9d. and £41. 18s 9d. cash and forward, and £40. 12s. 6d. and £41. 5s. respectively, at which we close steady. Total business about 5,000 tons. The total stocks in Liverpool, Swansea, London, and Havre are 42,747 tons, against 42,414 tons on the 15th ult., showing an increase of 333 tons for the fortnight. The figures for the previous fortnight showed a decrease of 1,350 tons, making a decrease for the month of 1,017 tons. The stocks include about 1,200 tons of copper sold, but not yet delivered to smelters. The visible supply for the fortnight is 46,501 tons, against 46,068 tons on the 15th March, showing an increase of 567 tons. The month's figures show a decrease of 1,043 tons. The stock of English G.M.B.'s in Liverpool has been reduced from four to three tons. Refined and manufactured sorts are dull. Quotations being:—Tough cake, £43. to £43. 10s; best select, £44 to £44. 10s.; Indian sheets, £49; strong sheets, £52.; and yellow metal sheets, 4¼d. per lb.

The sales of furnace material comprise—at Liverpool: 200 tons Chili Regulus at 8s. 1½d.; 300 tons Spanish ore, at 7s. 3d.; 40 tons Chili ore, at 7s. 6d.; 1,300 tons Copiapo ore, at 7s. 3d; 10 tons Peruvian ore, at 7s. 6d.; and 47 Cueva de la Mora precipitate, at 8s. 3d per unit; 28 tons Auriferous and Argentiferous River Plate Regulus; and 79 tons Argentiferous Peruvian ore on private terms At Swansea: 1,800 tons Quebrada Regulus on private terms.

New Companies.

H. Carlsson and Co., Limited.—Capital £5,000, in shares of £1. each. This company has been formed to buy, sell, and prepare peat, etc, and all kinds of fuel.

Leeds Phosphate Works, Limited.—Capital £200, in shares of £1. This company has been formed to carry on the business of manufacturers of artificial manures, and trade as agricultural chemists.

Western Trading Co., Limited.—Capital £25,000., in shares of £100. This company has been formed to acquire and work deposits of minerals, petroleum, etc., and to trade as miners and smelters. The subscribers to the memorandum of association are:—H. J. Sugg, 12, Harringay-grove, Hornsey, N., clerk; W. F. Morse, 49, Penge-road, South Norwood, accountant; J T. Clark, 36, Tilson road, Tottenham, gentleman; W. Withey, 50, Hatton Wall, E.C, gentleman; E C. Stacey, Walthamstow, accountant; C. E. Reeve, 15, Colby-road, S E, accountant; C E. Gibson, 32, Swinbrook-road, W., gentleman.

The Patent List.

This list is compiled from Official sources in the Technical Laboratory, under the immediate supervision of George E. Davis and Alfred R. Davis, who report promptly upon the value of Chemical Patents.

APPLICATIONS FOR ENGLISH LETTERS PATENT.

Manufacture of Nitrogenous and Phosphatic Manures. 5,692. March 19.

Process and Apparatus for the Electrolytic Decomposition o Smith. 5,721. March 19.

Treating Copal for Making Varnish. S. Banner. 5,779. March

Separating Metals and Purifying Lead. J. A. Mayo. 5 790.

Producing Nitric Acid and Metals from Nitrates. J. D. H. C. Forrest. 5,808. March 20.

Apparatus for Extracting Fat and Glue. F. J. Machalski. 5,821.

Manufacture of Ferrocyanide of Potash or Soda from Sulp A. E. Hetherington and E. K. Muspratt. 5 830. March 20.

Alloys of Sodium or Potassium with Lead. A. E. Hetherington and E. K. Muspratt. 5 831. March 20.

Manufacture of Cyanide of Sodium or Potassium from Ferr A. E. Hetherington, F. Hurter and E. K. Muspratt 5 832 Mar

Direct Yellow Dye for Cotton. Brook, Simpson, and Spiller A. G Green. 5 853. March 21.

Oxidising Indigo Blues. J. Grime 5,871. March 21.

Evaporating Apparatus. F. M. Robertson, W. S. Miller, and H. 5,877 March 21.

Improved Manufacture of Chlorine Gas and Caustic Soda. junr., and G. Webb, senr. 5,895. March 21.

Improvements in Paper Pulp Washing and Beating En Cannon. 5 964. March 22.

Improvements in Filter Presses. T. F. Seitz. 5 971. March

Improved Electrolysis of Saline Solutions. L. A. P. Liénard a Liénard 6 046. March 27.

Improved Strainers for Paper Making Machinery. L. Zey March 24.

Gazette Notices.

PARTNERSHIPS DISSOLVED.

E. E. Heaton, C. T. P Smith, J. C. Bingham, and G. C. Newt colour merchants, Bristol, under the style of Heaton, Smith and C regards G. C. Newton.

H. Boyce and F. Boyce, chemical agents and drysalters, Jewry-s under the style of Boyce Bros.

BANKRUPTCY ACTS, 1883 and 1890.

Receiving Order.

Smith, Fredk. William. Sutherland-place, Bayswater, W., late Eu N.W., Seven Oaks, Sutherland-avenue, Maida Vale, W., and professor of chemistry.

Adjudications.

Jones, Alice (described in the Receiving Order as Victor Cornet and trading as Cornet, Jones and Co.), Lynton-road, Bermondsey, S E manufacturer, spinster.

Osborne, Wm.—Kingston-upon Hull, drysalter.

IMPORTS OF CHEMICAL PRODUCTS

AT

THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending March 24th.

Acetate of Lime—
U. States, 746 pkgs. Allan Bros. & Co.

Acetic Acid—
Holland, 10 pkgs. A. & M Zimmermann

Alkali—
France, 100 c. Arnati & Hatrison
" 103 P. Hecker & Co.
Germany, 22 pkgs. L. & I. D. Jt Co

Aluminium—
Belgium, 38 c. Major & Field

Ammonium Chloride—
Holland, 34 pkgs. H. Lorenz
" 5 Kaltenbach & Schmitz

Antimony Ore—
Australia, 56 t. M Cohen
Portugal, 10 J. Bamber

Asbestos—
Italy, £135 Imperial Asbestos Co.
U. States, 750 Furness, Withy & Co

Barium Chloride—
Germany, 24 pkgs. Petri Brs.

Barytes—
Belgium, 11 cks. J. L. Lyon & Co.
Germany, 57 D. Storer & Sons
" 73 R. W. Greeff & Co.

Boracic Acid—
Italy, 38 pkgs. F. Boehm

Caoutchouc—
Madagascar, 276 c. Procter Brs.
" 2 Melchers, Runge & Co.
" 7 S. Baver & Co.
" 219 L. & I. D. Jt. Co.
" 144 Hammond & Co.
Cape, 360 "
Portugal, 161 Ross & Deering
" 6 L. & I. D. Jt Co.
E. Indies, 96 Prop Bull Wf.
Germany, 5 T. H. Lee
U. States, 1,234 Williams, Torrey & Co.

Castor Oil—
Italy, 10 cs. F. Boehm
E. Indies, 50 Craig & Rose
France, 27 F. Boehm

Caustic Potash—
Belgium, 130 c. Petri Brs.

Chemicals *(otherwise undescribed)*
Germany, 1 pkge. H. Lambert
" 6 T. H. Lee
" 63 A. & M. Zimmermann
" 9 Phillipps & Graves
" 6 Hernu, Peron & Co.
Holland, 15 Brooke, Simpson & Co.
Belgium, 11 T. Palmer

Cream of Tartar—
Holland, 131 pkgs. Kirkpatrick & Co.
Spain, 10 B & F. Wf. Co.
" 65 W. C. Bacon & Co.
France, 3 cks. F. C Devon & Co.
" 15 pkgs.

Dextrine—
Germany, 4 pkgs.
" 50

Dyestuffs—
Aniline
Holland, 5 pkgs. R.
Argols
Italy, 51 pkgs. Than
" 1,857 B. Ja
Natal, 1 Le
France, 32 Williams, To
Extracts
Holland, 1 pkge. R
Denmark, 3
" 2 Bailey
" 1 Pick
France, 250 L. J. L
Belgium, 25 L
Austria, 111
Gambier
E Indies, 32 pkgs. L. & I.

Indigo
E. Indies, 10 chts. Parsons & Keith
" 20 Croysdale & Co.
" 5 W. Adolph & Co.
" 62 L. & I. D. Jt Co.
" 26 Frubling & Goachem
" 21 Lond & Hanseatic Bk.
" 22 Forbes Forbes & Co.
" 7 Hermann & Co
Ceylon, 3 W. Isted

Logwood
Jamaica, 21 t. S. Dobree & Sons

Madder
France, 2 cks. Skilbeck Brs.
Holland, 4 pkgs. Williams, Torrey & Co.

Myrabolams
E. Indies, 1,050 pkgs. Baxter & Hoare
" 1,200 Beresford & Co.
" 181 J. Graves
" 1,050 L. & I. D. Jt. Co

Saffron
Spain, 2 pkgs. Tozer, Hewitt & Co.

Shumac
Italy, 250 pkgs. J. Kitchin, Ltd.
" 500 Harris & Brs.

Turmeric
E. Indies, 323 pkgs. L. & I. D. Jt. Co.
Cochin, 99 R. G. Hall & Co.
E. Indies, 316 Prop. Bull Wf.
" 50 E. D. Sassoon & Co.
" 79 Clarke & Smith
" 100 Hoare Wilson & Co.

Tanner's Bark
Adelaide, 17 t. Baxter & Hoare

Valonia
A. Turkey, 25 t. Leach & Co.
" 155 A. & W. Nesbitt
" 26 Hoare, Wilson & Co.
" 50 Coml. L. Co.

Farina—
Germany, 50 pkgs. T. H. Lee
Holland, 50 Hicks, Nash & Co
" 100 Prop. Chmbln.'s Wf.

French Chalk—
Italy, £40 J. Kitchen, Ltd

Glucose—
Germany, 25 pkgs. 205 c. Pillow, Jones & Co.
" 100 100 G. Hornzee
France, 200 200 Barrett, Tagant & Co.
" 280 280 L. Norman & Co., Ltd.
" 300 300 Trier, Meyer & Co.
U. States, 100 600 Soundy & Sons
" 1,217 4,442 L. Sutro & Co.
" 100 560 R. G. Hall & Co.
" 500 500 C. F. Webster & Co.
" 500 500 Fellows, Morton & Co.
" 375 375 Trier, Meyer & Co.
" 50 285 Pillow, Jones & Co.
" 830 2,315 Prop. Chmbln.'s Wf.
" 100 600 Deering & Robottom
" 304 304 L. Norman & Co., Ltd

Magnesia—
Holland, 20 pkgs. Beresford & Co.

Manganese—
Japan, 125 t. Julius & Co.
Australia, 135 Harold Brs.
Germany, 5 H. Lambert

Manure—
France, 90 t. Burnett & Sons
Portugal, 1 Coverley & Westray
Peru, 1,250 W. Montgomery & Co.
Germany, 51 Perkins & Homer
" 50 Odam's Chmcl. Manure Co.

Methyl Alcohol—
Belgium, 27 dms. Stein Brs.

Mica—
Adelaide, £190 Best, Ryley & Co.

Naphthaline—
Germany, 21 pkgs. Forbes, Abbott & Co.

Ochre—
France, 9 cks. Hemingway & Co.
" 30 Williams, Torrey & Co.
Holland, 3 pkgs. Phillipps & Graves

Oxalic Acid—
Germany, 20 pkgs. H. Lambert

Paraffin Wax—
U. States, 90 brls. H. Hill & Sons.
" 885 J. H. Usmar & Co.

Phosphate Rock—
Holland, 27 t. C. J. Capes & Co.
" 206 Anglo-Cont. G Wks.
Belgium, 120 H. & E Albert
" 120 Odams' Chmcl. Manure Co.
" 125 Leach & Co.
" 210 Miller & Johnson
" 205 D. de Pass & Co.

Plumbago—
U. States, 42 cs. S. Ginterman & Co.
" 64 brls. J. Thredder, Sons & Co.
Holland, 37 cks. B Gallaway
Cape, 472 bgs. S Figgis & Co.
Germany, 13 cs. O. Scholzig
Ceylon, 4 brls. Beresford & Co.

Potash—
Canada, 15 brls. J. Barber & Co.
U. States, 163 c. Charles & Fox

Potash Salts—
Germany, 102 pkgs. T. Farmer & Co., Ltd

Potassium Bicarbonate—
Holland, 40 c. A. & M Zimmermann

Potassium Bioxalate—
Holland, 10 pkgs. Beresford & Co

Potassium Carbonate—
France, 200 c. C. J. Capes & Co.
Germany, 105 F. Boehm
France, 52 Spies Brs. & Co

Potassium Oxalate—
Holland, 20 pkgs. Beresford & Co.

Potassium Sulphate—
France, 50 pkgs Petri Brs.
" 17 drs. Mead, Son & Co.
Germany, 1,100 pkgs. Co-op I. Assn. Ltd
" 508 Bessler, Waechter & Co.

Pumice Stone—
Italy, 15 t Seaward Brs., Ltd.
" 6 Blundell, Spence & Co.

Quicksilver—
Italy, 500 btls. L. & I. D. Jt. Co.
" 500 T. Sanders
Spain 5,000 flks. N. M Rothschild & Sons

Rosin—
U. States, 250 brls H Hill & Sons
Holland, 1 G. Rahn & Co.
" 4 R. Baelz & Co.

Salt—
Germany, 550 pkgs. Crosse & Blackwell

Saltpetre—
Germany, 100 bgs. D. de Pass & Co.
" 550 Crosse & Blackwell
" 50 cks. J. Hall & Son
" 57 P Hecker & Co

Silica—
Germany, £100 A Haacke & Co.

Starch—
Holland, 254 pkgs. Little & Johnston
" 110 Phillipps & Graves
Germany, 6 "
" 60 J. Hall, jnr., & Co.
Belgium, 80 F. Claydon & Co.
" 80 Forwood Brs. & Co.
" 64 Sawer, Sons & Co.
" 510 Prop. Scott's Wf.
" 20 F. Rosenthal & Co.
U. States, 300 Prop. Chmbln 's Wf.

Stearine—
France, 152 bgs. Walbaum & Tosetti
" 50 Prop. Chmbln.'s Wf.
Belgium, 6 cks. Blumann & Stern
Germany, 50 bgs. H. Hill & Sons
France, 174 Beresford & Co.
U. States, 5 cks. L. & I. Dk. Co.

Sulphur—
Italy, 50 t W. C. Bacon & Co.
" 5 J. T. Morton
" 21 Magee, Taylor. & Co.
" 50 Soundy & Sons
" 10 C. J. Capes & Co.
" 20 J. Kitchen, Ltd.
" 5 Sharland & Co.
" 6 H. S. Smith & Co.
" 5 F. Smith
" 150 B. Jacob & Sons
" 10 F. C. Devon & Co
" 15 J. Puddy & Co.

Tallow and Stearine—
U. States, 7 cks. W. W. Young

Tartaric Acid—
Holland, 20 pkgs. Kirkpatrick & Co.
" 6 G. Rahn & Co.
" 25 B. & F. Wf. Co., Ltd.
" 6 F. C. Devon & Co.

Turpentine—
N. Russia, 52 brls. C. B. Leighton

Ultramarine—
Germany, 4 cks. 11 pkgs. Steinhoff, Sons, & Co
" 4 H. Lambert
Holland, 34 pkgs. Thames S. T. & L. Co., Ltd.
" 30 Haeffner, Hilpert, & Co.
Belgium, 6 cs. Leach & Co.

Varnish—
France, 22 pkgs. Flageollet & Co.
" 15 Suter, Hartmann Compn. Co.
Germany, 3 Drolenvaux & Bremner
U. States, 47 Pinchin, Johnson, & Co.
" 5 H. Johnson & Sons

Verdigris—
France, 2 pkgs. ———

Vermilion—
Holland, 4 cks. Magee, Taylor, & Co

White Lead—
Germany, 20 cks. Petri Brs.
" 80 Steinhoff, Sons, & Co.
" 60 T. & W. Farmiloe
" 32 H. Willoughby
Holland, 40 A. & M. Zimmermann
" 19 Colthurst & Harding

Wood Pulp—
Germany, 369 pkgs. J. Dickinson
" 100 G. Schenkenwald & Co.
" 513 Ross & Deering
Norway, 1,635 Moreton Cox Brs.
" 16 W. G. Taylor & Co
" 326 Henderson, Craig, & Co.
Sweden, 105 "
" 800 G. F. Green & Co.
" 200 C. Christopherson & Co.
" 10 J Spicer & Sons
" 85 M. D. Co.
Holland, 13 T. H. Lee
Canada, 6,855 E. J. & W. Goldsmith
Austria, 102 W. Friedlander

Zinc Ashes—
Australia, 10 t. C. Tennant, Sons, & Co.

Zinc Chloride—
Holland, 2 pkgs. Phillipps & Graves

Zinc Oxide—
Germany, 13 cks. H Willoughby
" 75 brls. M. Ashby, Ltd.
Holland, 50 "
" 100 F. Pryor
" 500 cks Soundy & Sons
Germany, 18 Beresford & Co.

Zinc White—
Holland, 4 cks. Spies Brs & Co.
" 50 Burrell & Co.

LIVERPOOL.

Week ending March 22nd.

Ammonia—
New York, 30 cyldrs.

Antimony—
Valparaiso, 161 sks. W. Fremayne
Antofagasta, 17 Hainsworth, Watson & Co

Antimony Ore—
Valparaiso, 153 sks. Vivian, Younger & Co.
" 617 "
Antofagasta, 229 H. R. Merton & Co.
" 791 Kleinwort, Sons & Co.
" 131 Hainsworth, Watson & Co.
" 120 Aillon Aramayo
" 302 A. Gibbs & Sons

Bone Ash—
Campana, 366 bgs.

Bone Meal—
Bombay, 5,827 bgs.
Karachi, 1,000 Ralli Brs.
" 1,000

Borate of Lime—
Antofagasta, 2,215 bgs.

Castor Oil—
Calcutta, 720 cs. Ralli Brs.
Marseilles, 59 cks. Henderson Brs.
" 12

Colours—
Rotterdam, 20 cks.
Hamburg, 4 1 cs.
Boston, 2 kgs Musson & Co.

Cream of Tartar—
Barcelona 8 pps
Tarragona, 5 bts Sachse & Klemm
Marseilles, 5 cks. Henderson Brs.

Dried Blood—
Campana, 230 bgs

Dyestuffs—
Cochineal
Gr. Canary, 6 bgs. J. J. Padgett & Co.

Cutch
Rangoon, 1,305 bgs

Indigo
Calcutta, 241 chts
Karachi, 37 cs.

Logwood
Jamaica, 487 t E Brownbill & Co.

Myrabolams
Bombay, 6,560 bgs.
" 1,297 E. D. Sassoon & Co
" 2,237 Forbes, Forbes & Co.
" 9 443 D Sassoon & Co.

Orchella
Lisbon, 15 bgs. Edward Brs.
" 190 J. Martin & Sons
" 42 bls.

Shumac
Barcelona, 100 bgs.

Turmeric
Bombay, 108 bgs.

Valonia
Syra, 232 bgs.
Smyrna, 75 t. 130 Barry Brs.
" 26 1 Essayan, Shahum & Co.
" 654

Glucose—
Hamburg, 50 cks.

Iodine—
Valparaiso, 124 brls. W & J. Lockett
" 21 A Gibbs & Sons

Litharge—
Rotterdam, 4 cks.

Manganese Ore—
Carrizal Bago, 1,500 t.

Manure—
Bordeaux, 1 bg.

Ochre—
Alicante, 11 brls.

Paint—
Port Said, 1 cs
Boston, 3 H. P. Graves
" 3 Bahr, Behrend & Ross
" 25 W. Nicol & Co.
Marseilles, 7 cks. Collett

Paraffin Scale—
Rangoon, 330 cs.

Phosphates—
Ghent, 1,000 bgs J. T. Fletcher & Co.
Treport, 420 t. Phosphate Guano Co.

Phosphate Rock—
Punta Gorda, 1,650 t.

Pitch—
Amsterdam, 59 cks.
Hamburg, 59

Potash—
Portland, 25 brls. Makin & Bancroft
Dunkirk, 2 cks. 21 dms.
Hamburg, 24

Pyrites—
Huelva, 1,704 t. Matheson & Co.

Saltpetre—
Calcutta, 555 bgs.
Hamburg, 104 brls. 3 kgs.

Soap—
Marseilles, 7 cs. Cox Brs.
" 3 J. Thompson
" 110 Henderson Brs.
" 8
Boston, 2 Barclay & Co.

Soda—
Rotterdam, 40 kgs.

Sodium Nitrate—
Iquique, 5,654 sks.

Sodium Silicate—
Rotterdam, 1 ck.

Starch—
Rotterdam, 116 cs 60 bxs.
Boston, 200 bgs.

Stearine—
New York, 25 hhds.
Sulphur—
Bordeaux, 8 bls.
Tallow—
Boston, 150 tcs J. Mackee & Co.
" 33 brls.
Rotterdam, 40
Campana, 136 cks.
Tartar—
Bordeaux, 14 cks.
Tartaric Acid—
Rotterdam, 3 cks.
Ultramarine—
Rotterdam, 4 cs.
Waste Salt—
Dunkirk, 100 bgs.
White Lead—
Rotterdam, 99 cks.
Wood Pulp—
Rotterdam, 35 bls.
Gothenburg, 10 J. A. Reid
" 170
Hamburg, 63
Oporto, 700 Ciama Wood Pulp Co
Wood Spirit—
Hamburg, 8 cks.
Zinc Oxide—
Rotterdam, 125 cks.
New York, 200 brls.
Marseilles, 81 Henderson Brs
Zinc White—
Hamburg, 80 cks.

MANCHESTER.

Week ending March 24th.

Acetic Acid—
Hamburg, 3 brls.
Albumen—
Hamburg, 10 cs.
Alumina Sulphate—
Rotterdam, 132 cks
Antimony Oxalate—
Rotterdam, 2 cks.
Barium Chloride—
Hamburg, 12 cks.
Castor Oil—
Antwerp, 29 cks. 28 brls.
Rotterdam, 29
Colours—
Antwerp, 10 cs. 2 brls. 1 ck.
Rotterdam, 37 26 45 8 bxs. 206 pkgs.
Hamburg, 6
Treport, 4 6 cks
Cream of Tartar—
Rotterdam, 4 cks.
Dyestuffs—
Alizarine
Rotterdam, 19 cks. 118 brls.
Indigo
Rotterdam, 3 chts.
Farina—
Rotterdam, 50 bgs.
Hamburg, 140
Lead Acetate—
Rotterdam, 34 cks
Limestone—
Antwerp, 6 cs.
Litharge—
Rotterdam, 6 cks.
Minium—
Rotterdam, 10 cks.
Oxalic Acid—
Rotterdam, 16 cks.
Palm Oil—
Hamburg, 12 cks.
Pitch—
Antwerp, 20 cks.
Potash—
Rotterdam, 34 cks.
Treport, 21 dms.
Rosin—
Wilmington, N.C., 5,755 brls.
Salt—
Antwerp, 1 ck.
Rotterdam, 1
Soda—
Rotterdam, 2 cks.
Starch—
Antwerp, 120 cs.
Rotterdam, 280 100 bgs.
Hamburg, 483
Tartaric Acid—
Rotterdam, 2 cks.
Tar Oil—
Antwerp, 36 cks.
Tin Oxalate—
Rotterdam, 6 brls.
Tin Perchloride—
Antwerp, 2 cks.
White Lead—
Rotterdam, 6 cks.
Wood Pulp—
Gothenburg, 7,700 bls. Henderson, Craig, & Co.

HULL.

Week ending March 24th.

Acid—
Bari, 30 pks. Wilson, Sons, & Co., Ltd.
Alum—
Rotterdam, 40 cks. W. & C. L. Ringrose
Ammonium Nitrate—
Rotterdam, 2 cks. Hutchinson & Son
Barytes—
Antwerp, 40 cks 50 bgs. Bailey & Leetham
Cellulose—
Trieste, 200 bls.
Chemicals *(otherwise undescribed)*
Antwerp, 77 pks. Wilson, Sons, & Co., Ltd.
Danzig, 14 cks. 1 brl.
Dunkirk, 111 pks. Wilson, Sons, & Co., Ltd.
" 20 dms.
Colours—
Flushing, 48 cks. 6 cs. Hutchinson & Son
Rotterdam, 8 1 21 pkgs. W. & C. L. Ringrose
Rotterdam, 8 2 cs. Hutchinson & Son
Bremen, 4
Antwerp, 3 J. W. Davis & Son
" 10
Antwerp, 10 Bailey & Leetham
Danzig, 54 bgs. Wilson, Sons, & Co., Ltd.
Amsterdam, 4 cks. W. & C. L. Ringrose
Dextrine—
Stettin, 50 bgs. Wilson, Sons, & Co., Ltd
Dyestuffs—
Alizarine
Rotterdam, 6 cks W. & C. L. Ringrose
Madder
Rotterdam, 12 cks. W. & C. L. Ringrose
Shumac
Trieste, 100 bls. Wilson, Sons, & Co., Ltd.
Farina—
Stettin, 100 bgs. Wilson, Sons, & Co., Ltd.
" 600
Harlingen, 1,345
Ghent, 80 cs. Wilson, Sons, & Co., Ltd.
Hamburg, 75 pkgs. "
" 25 bgs.
Guano—
Aalesund, 1 bg.
Kaolin—
Rotterdam, 20 cks. Reckitt & Sons
Lead Acetate—
Stettin, 34 brls. Wilson, Sons, & Co., Ltd.
Manure—
Hamburg, 500 bgs. Wilson, Sons, & Co., Ltd.
Phosphate—
Ghent, 81 t. 750 bgs. Wilson, Sons, & Co., Ltd.
Pitch—
Rotterdam, 100 cks. Wilson, Sons, & Co., Ltd.
Pumice Stone—
Messina, 110 pks. Wilson, Sons, & Co., Ltd.
Saltpetre—
Hamburg, 10 kgs. Wilson, Sons, & Co., Ltd.
Soap—
Rotterdam, 6 cs. Hutchinson & Son
Starch—
Bremen, 2,238 cs. Veltmann & Co.
Antwerp, 60
Tallow—
Reval, 4 cks. Wilson, Sons, & Co., Ltd.
Tar—
Dunkirk, 1 cs. Wilson, Sons, & Co, Ltd.
Tartar—
Bordeaux, 12 cks. 10 bgs. Rawson & Robinson
" 1
Tartaric Acid—
Rotterdam, 5 cks. W. & C. L. Ringrose
Ultramarine—
Rotterdam, 2 cks. Davis & Son
Waste Salt—
Hamburg, qty. Bailey & Leetham
" 1,109 bgs Wilson, Sons, & Co, Ltd.
White Lead—
Rotterdam, 19 cks. Hanger, Watson & Harris
" 22 W. S. Merrikin
Antwerp, 48 Bailey & Leetham
Rotterdam, 10 Hutchinson & Son
Wood Pulp—
Halmstad, 640 bls.
Hango, 115 Furley & Co.
" 277 J. Good & Sons
Zinc Oxide—
Rotterdam, 25 cks. W. & C. L. Ringrose
Zinc White—
Rotterdam, 20 cks. Hutchinson & Son

GLASGOW.

Week ending March 29th.

Acetate of Lime—
New York, 1,353 bgs.
Aniline—
Rotterdam, 9 cks 7 cs. J. Rankine & Son
Barium Sulphate—
Antwerp, 200 bgs. 44 cks.
Barytes—
Rotterdam, 59 pkgs.
Castor Oil—
Marseilles, 176 cks. 31 cs.
Colours—
Rotterdam, 2 cks. J. Rankine & Son
" 13 pkgs.
Cream of Tartar—
Marseilles, 17 cks.
Dyestuffs—
Alizarine
Rotterdam, 2 cks. J. Rankine & Son
" 151 pkgs.
Argols
Bordeaux, 31 bgs.
Cutch
Rangoon, 2,000 bxs
Extracts
Fiume, 697 brls.
Fluor Chrome—
Rotterdam, 2 cs. J Rankine & Son
French Chalk—
Fiume, 100 bgs. J. L. Cardwell & Co.
Glucose—
New York, 200 brls
Ochre—
Marseilles, 133 brls.
Paint—
Marseilles, 39 cs.
New York, 5
Phosphates—
Ghent, 1,000 bgs.
Pitch—
Antwerp, 20 cks.
Marseilles, 49
Pumice Stone—
Messina, 50 bgs.
Rosin—
New York, 1,622 brls.
Salammoniac—
Rotterdam, 1 ck.
Soap—
Fiume, 27 cs. G.
" 67
New York, 350 brls.
Starch—
Fiume, 20 bgs.
Amsterdam, 30 7 cks.
Antwerp, 120 cs.
New York, 500 bgs.
Stearine—
Rotterdam, 78 pkgs.
Sulphur—
Catania, 400 bgs. 25 brls Son, &
" 969
Sulphur Ore—
Seville, 1,240 t. Sevil & Coppe
Tartar—
Fiume, 4 cks.
Bordeaux, 8
Varnish—
Marseilles, 2 cks.
White Lead—
Rotterdam, 27 cks.
Amsterdam, 3 tins.
Antwerp, 12
Wood Pulp—
Fiume, 510 bls.
Drontheim, 1,200
Christiania, 140
Zinc Oxide—
Antwerp 50 cks.
New York, 100 brls.

TYNE.

Week ending March
Guano—
Lysekil 3,465 bgs.
Rosin—
Savannah, U.S.A., 3 970 brls.
Starch—
Rotterdam, 100 cs. Tyne
Wood Pulp—
Gothenburg 130 pkgs
Christiania, 230 bls.
Rotterdam, 70 bls. Tyne

GOOLE.

Week ending March
Alkali—
Calais, 15 cks.
Caoutchouc—
Boulogne, 3 cks.
Dyestuffs—
Alizarine
Rotterdam, 13 brls.
Extracts
Ghent. 100 cks.
Logwood
Hamburg, 2,807 pcs.
Belize, 547 t.
Jamaica. 436
Madder
Rotterdam, 5 pkgs.
Dyestuffs *(otherwise unde*
Boulogne, 17 cks 2 cs.
Farina—
Hamburg, 1,700 bgs.
Delfszyhl, 2,838
Rotterdam, 250
Glucose—
Dunkirk, 300 bgs.
Potash—
Dunkirk, 30 dms.
Calais, 21
Saltpetre—
Rotterdam, 100 bgs.
Sulphur Ore—
Seville, 3,330 t.
Waste Salt—
Hamburg, 254 t. 177 cks.
Zinc Oxide—
Antwerp, 25 cks.

GRIMSBY

Week ending March 24
Caoutchouc—
Hamburg, 97 cs.
Chemicals *(otherwise unde*
Hamburg, 13 cs.

EXPORTS OF CHEMICAL PRODUCTS
OF
THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.
Week ending March 28th.

—				
Bay,	12 cs.			£14
—				
arwin,	1 t.	4 c.		£2 3
—				
urne,	1 t.			£6
nia (Liquid)—				
ie,	12 cyldrs.			£36
bo,	1 c.			10
nium Carbonate—				
y,	2 t.	15 cs.		£109
church,	5			10
nium Chloride—				
y,	1 t.			£26
rdam,		6 c.		11
ania,		13		15
,	1			43
aki,		3		7
e,	14 cks.			73
nium Sulphate—				
urg,	100 t.			£1,361
does,	45	1 c.		630
	21			290
,	12	2		167
n,	50			700
e,	30	12		431
loupe,	62			868
Bay,		10		8
c—				
ton,		5 c.		£10
de,	5 t.			53
Bay,		6		6
n Binoxide—				
zen,	4 t.	13 c.		£200
—				
ville,	4 kgs.			£6
,	1 t.			31
de,		3 c.		6
aki,		3		6
ic Acid—				
dorf,	80 cks.			£511
n Bisulphide—				
Town,	20 t.	13 c.		£444
nic Acid Gas—				
	7 tubes			£18
c Soda—				
Bay,	1 t.	8 c.		£39
don,	10	7		116
ton,		9		20
cals (*otherwise undescribed*)				
gton,	3 pkgs.			£7
de,	18	1 cs.	6 c.	65
ius,		3		14
,		5		30
Acid—				
ona,	1 t.	2 c.		£147
	1	5		187
dam,		6		47
Janeiro,		1		8
urg,		15		113
Bay,	1 cs.			10
	10 cks.			78
,		1		9
dam,		10		73
agen,		10		73
roducts—				
ine Dyes				
,	1 cs.			£6
ine Oil				
dam,	12 dms.			£350
zol				
dam,	20 pns.			£170
sote				
,	4,171 brls.			£659
htha				
t,	26 brls.			£77
hthalene				
urg,	6 cks.			£47
Paraffin Wax				
Launceston,	362 bgs.			£579
Pitch				
Dunkirk,	903 t.			£1,196
Boston,		200 cks.		101
Nagasaki,		7		8
Antwerp	290			399
Venice,	2,100			2,585
Pyridine Bases				
Hamburg,	9 cks.			£66
Tar				
Natal,	75 rns.			£39
Tar and Pitch				
Sydney,	6 brls.			£5
Tar Salts				
Hamburg,	20 cks.			£20
Copper Sulphate —				
Huelva,	20 t.			£330
Trieste,	5			78
Bordeaux,	60			480
Treport,	5	3 c.		100
Cream of Tartar—				
Sydney,	2 t.	5 c.		£160
Melbourne,	3	3		201
Fremantle,		6		22
Adelaide,		5		19
Disinfectants—				
Natal,	10 dms.		3 cs.	£25
Calcutta,	12 cks.	3 c.	1	26
Colombo,	4	18		138
Sydney,			12	73
Guano—				
Barbadoes,	242 t.	2 c.		£2,660
Grenada,	2			23
Guadeloupe,	71			781
Bordeaux,	15			150
Manure—				
Gothenburg,	176 t.	17 c.		£681
Hamburg,	197			886
Treport,	59	12		360
Malaga,	40			320
Jamaica.	2			14
Rotterdam,	69	10		464
Sydney,	50			123
Calicut,	1			10
Limon,	18			151
Paris,	16	14		120
Demerara,	125			1,392
Trinidad,	236			2,779
Cape Town,	10	5		28
Nitric Acid—				
Jersey.	62 cbys.			£110
Phosphoric Acid—				
Demerara,	5 t.	2 c.		£78
Boulogne,	2 cks.			15
Phosphorus—				
Oporto,	1 c.			£10
Otago,	5 cs.			56
Potassium Chlorate—				
New York,	10 t.	16 c.		£550
Calcutta,		15		50
Potassium Cyanide—				
Delagoa Bay.	11 cs.			£191
Melbourne.	3			30
Salicylic Acid—				
E. London,	1 cs.			£8
Adelaide,	1			8
Salt Cake—				
Ghent,	140 t.			£245
Antwerp,	140			245
Saltpetre—				
Keppel Bay,		11 c.		£12
Piræus,	1 t.	5		26
Pernambuco,	11	17		274
Melbourne	3			67
Sheep Dip—				
B. Ayres,	1,000 cs.			£3,000
E. London,	18 t.	100 dms.		621
Soda—				
M. Video,	6 c.			£5
Soda Alkali—				
Melbourne,		5 c.		£17
Soda Crystals—				
Sydney,	50 t.			£125
Demerara,	1	13 c.		5
Cape Town,	1	14		6
Soda Salts—				
New York,		2 cs.		35
Sodium Bicarbonate—				
Trinidad,	1 t.			£8
Algoa Bay,		10 c.		4
Sodium Sulphite—				
Adelaide,		7 c.		£42
Strontium Nitrate—				
Calcutta,		6 c.		£8
Sulphur—				
Algoa Bay,	25 kgs.			£13
Natal,	1 t.	10 c.		12
Sulphuric Acid—				
Calicut,	10 cs.			£13
Colombo,	10			7
Superphosphate—				
Guadeloupe,	125 t.			£500
Oporto	8			120
Mauritius,	100			425
Cherbourg,	280			840
Bordeaux,	5			15
Tartaric Acid—				
Perth,	10 c.			£43
Melbourne.	1 t.			98
Napier,		3 cs.		15
Rockhampton,		1		5
Fremantle,		1		5
Sydney,	1			100
Adelaide,	20 cs.			107

LIVERPOOL.
Week ending March 28th.

Acetate of Lime—				
Rio de Janeiro,		11 c.	1 q	£9
Alum—				
B. Ayres,	1 t.	1 c.		£5
Bombay,	29	3		107
Constantinople,	1	11		7
Halifax.	1			5
Boston,	1	8		7
Oporto,	3	2		15
St. John's, N.B.,	1	3		10
Vera Cruz,	1			26
Galatz,	1			7
Syra,		14		2
Melbourne,	3	15		25
Ammonium Carbonate —				
Antwerp,	2 t.			£73
Barcelona,	1			36
Hamburg,	1	5 c.	2 q.	45
Bari,		4	1	8
Ammonium Chloride—				
New York,	5 t.			£126
Constantinople,		5 c.	1 q.	9
Rotterdam,	5	2		85
Dedeagatch,		10		19
Syra,		8		15
Piræus		7	2	14
Kurrachee,		19		34
Oshawa.	1	10		36
Ammonium Sulphate—				
Valencia,	69 t.	16 c		£965
Samarang,	55	3		730
Probolingo,	18			250
Alicante,	20	8		258
Demerara,	148	6	3 q.	2,133
Sourabaya,	102	13		1,465
St. John's, N.F.,	1	9	2	20
Newport News,	100	1	2	1,540
Amorphous Phosphorus—				
Hiogo,		2 c.	2 q.	£40
Arsenic—				
B. Ayres,	1 t.	3 c.		£15
Asbestos—				
Rangoon.	2 cs.			
Barium Chlorate—				
Stockholm,		3 c.		£14
Basic Slag—				
Granville,	103 t.	6 c.		
Bleaching Powder—				
Baltimore,	144 cks.			
Boston,	898			
B. Ayres,	2			
Calcutta,		125 cs.		
Newport News,	121			
New York,	496	20 bxs.		
Seville,	47			
Genoa,	144			
Pernambuco,	1			
Philadelphia,	130			
San Francisco,	100 brls.			
Boracic Acid—				
Alicante,		3 c.	2 q.	£6
Portland, Me.,	1 t.	12	2	64
Borax—				
Lisbon,	1 t.	2 c.	2 q.	£30
Mayaquez,		4		6
Ponce,		5		7
Galatz,	1	8		7
Constantinople,		10		16
Boston,	3	6	3	93
Vera Cruz,	1	4		34
Malaga,	1			31
Hamburg,	31	6	1	218
Rotterdam,	4	12		133
Yokohama,	3	9	2	89
Borax Crystals —				
St. John's, N.B,		7 c		£10
Calcium Chloride—				
Rangoon,	5 t.			£12
Sydney,	4	14 c.		11
New York.	10	3	1 q	27
Carbolic Acid—				
Smyrna,		2 c.		£—
Hamburg,	10 t.			272
Carbon Bisulphide—				
Sydney,	5 t.	3 c.		£60
Castor Oil —				
Bourgas,	1 ck.			
Sierra Leone,	5 cs.			
Caustic Potash—				
Adelaide,	2 t.	13 c.		£70
Melbourne,	2	2		47
Caustic Soda—				
Algoa Bay,	71 dms.	2 cs.	3 cks.	
Alicante,	186	90		
Antwerp,	3			
Aracaju,	10			
Bahia.	35			
Barcelona,	225			
Bilbao,	55		38	
Bombay		5 brls.		
Boston,	200			
Brantford, Ont.,	30			
Brisbane,	35			
B. Ayres,	62			
Calcutta,	223			
Cartagena, Sp ,	160			
Chicago,	350			
Cincinnati,	115			
Genoa,	189			
Hamburg,	99			
Ibrail,	30			
Kansas City,	50			
Kurrachee,	251			
La Guayra,	70			
Lisbon,	10			
Malaga,		15	50 kgs.	
Malta,	35			
Melbourne,	120		5 bxs. 25 pkgs	
M. Video	50			
Nagasaki,	100			
Nauplia,	20			
Newport News,	154			
New York,	390	16	50 bxs.	
Nuevitas,	40			
Odessa,	180			
Oporto,	60			
Para,	33			
Pasages.	70		10 cks.	
Pernambuco,	59			
Philadelphia,	50			
Rotterdam,	125			
S Stephen, N.B.	50			
San Francisco,	70	5	10	
Santander,	15			
Seville,	275	180		
Singapore,	2			
Sourabaya,	218			
Sydney,	235			
Tarragona,	31			
Valencia,	35			
Yokohama,	180			
Amsterdam,	181			
Ancona,	45			
Baltimore,	220			
Bari,	80			
Charlotte Town,	30			
Cuidad Bolivar,	20			
Fiume,	30			
Hamilton,	50			
Maracaibo,	10			
N. Orleans,	50			
Portland, Me.,	165			
Shanghai,	8			
Vera Cruz,	115			

Chemicals (*otherwise undescribed*)
Bari, 8 c. £15
Manila, 1 1 q. 8
Genoa, 10 19

China Clay—
Bombay, 110 t. 10 c.
Boston, 450
Messina, 15 12
Maranham, 5 9
Philadelphia, 340

Chloride of Lime—
Rio de Janeiro, 19 c. £15

Coal Products—
Alizarine
Lisbon, 3 cks.
New York, 3 brls. 3 kgs.
Aniline
Samsoun, 2 kgs.
Aniline Colours
Constantinople, 2 cs.
New York, 9 cks.
Aniline Dyes
Para, 1 cs.
Aniline Oil
Genoa, 7 dms.
St. Louis, Mo., 8
Aniline Salts
New York, 49 cs.
Creosote
Honolulu, 10 brls.
Mirbane Oil
Montreal, 15 cs.
Pitch
Kurrachee, 125 cks.
Sierra Leone, 13 c.
Ibrail, 35 brls.
Tar
Bathurst, 5 cks.
Ibrail, 110 brls
Legborn, 3
Noqui, 5
Sierra Leone, 1 t. 19 c.
Galatz, 25
Honolulu, 100
Philadelphia 150
St. John's, N'fd, 10 hf.-brls. 30

Copperas—
Vera Cruz, 6 c. £1
Rio de Janeiro, 1 t. 13 3 q. 11

Copper Sulphate—
B. Ayres, 3 t. 12 c. 3 q. £52
Lisbon, 78 11 3 1,199
Genoa, 229 11 3,615
St. John's, N.B., 10 8
Oporto, 49 3 730
Leghorn, 47 3 692
Venice 97 18 1,444
Trieste, 48 19 1 711
Brindisi, 23 17 3 339
Seville, 2 3 31
Halifax, 8 3 7
Ancona, 75 14 1,147
Bari, 64 4 1 965
Naples, 51 15 3 802
Marseilles, 227 18 2 3,530
Messina, 3 42
Havana, 1 13 25
Galatz, 10 8
Piræus, 1 1 3 16
M. Video, 12 18 1 200
New York, 24 19 380
Rio de Janeiro 5 2 6
Ghent, 3 2 49

Disinfectants—
Barcelona, 9 c. £7

Gypsum—
Lisbon, 5 t. 3 q £12
New York, 36 7 c. 134

Lime—
Savannah. 3 cks.

Litharge—
Oporto, 2 cks.

Magnesia—
New York, 22 pkgs.
Sydney, 3 cs.

Magnesium Sulphate—
Vera Cruz, 7 brls.
B. Ayres, 20 kgs.

Manure—
Landerneau 291 t. 3 q. £1,392
Genoa, 52 10 c. 200
Las Palmas, 2 28
Havre, 50 2 3 q. 141
Honolulu, 20 200

Metallic Sodium—
Rotterdam, 4 t 16 c. 3 q. £984

Oxalic Acid—
Bordeaux, 1 t. 2 q. £34
Boston, 12 3 c. 2 324

Paint—
Calcutta, 75 kgs.
Cape Haitien, 4 cks. 60
Demerara, 32 4 dms.
Gibraltar, 2 cs.
Leghorn, 3
Manaos, 12 873
Manila, 13
M. Video, 22
Para, 14
Piræus, 19
St. John's, N'fd., 5
Salonica, 2 135
Sierra Leone, 8
Trieste, 4
Vera Cruz, 11
Curacao, 4
Galatz. 5
Hamburg, 14
Havana, 30
Iquique, 10
Lisbon, 1 20
Pernambuco,

Painters' Colours—
Acajutla, 2 brls.
Addah, 18 cs. 20 kgs.
Alexandria, 55 7 264
Algoa Bay, 1 ck.
Amapala 10
Bahia, 10 5 18
Bathurst, 20
Beyrout, 14
Bilbao, 30 dms. 20
Bombay, 45 203
Bonny, 18 pkgs.
B. Ayres, 40 100 27
Candia, 9
Carbonear, N.F., 4 4
Charlotte Town, 1
Elmina, 1
Hamburg, 20 bgs. 6
Harbor Grace, 8 10
HongKong, 10 tcs.
Ibrail, 27 3
Kustendjie, 7
New York, 300 16
Para, 3 3
Rangoon, 12 2
Rio de Janeiro, 6
Rosario, 2
Yokohama, 6
Akassa, 79
Amsterdam, 6 dms. 6
Boma, 6
Honolulu, 1 41
M. Video, 7 1
Shanghai, 80
Tripoli, 2
Vera Cruz, 150
Gibraltar, 60

Paraffin Wax—
Barcelona, 80 bgs.
Trieste, 5 cs.

Phosphorus—
Havana, 3 cs. £33
B. Ayres, 6 66
Shanghai, 15 150
Kobe, 47 508
Yokohama, 10 100
Hiogo, 1 10

Potashes—
La Plata, 10 c. £15

Potassium Bichromate—
Rio de Janeiro, 16 c. 3 q. £41
B. Ayres, 11 2 22

Potassium Chlorate—
Hiogo, 43 t. £2,664
Hong Kong, 3 189
Naples, 3 5 c. 191
Bari, 15 44
Alicante, 3 9
New York, 20 1,152
Boston, 11 1 644
Havana. 15 50
Shanghai, 5 15 338
Kobe, 5 320
Calcutta, 10 30
M. Video, 10 30
Hamburg, 2 15 160
B. Ayres, 9 510
Lisbon, 4 13
Oporto, 1 60
Rotterdam, 1 56
Ancona, 10 30
Odessa, 19 60
Yokohama, 15 909
Sydney, 10 608

Potassium Cyan'de—
Singapore, 1 c. £5

Potassium Silicate—
Amsterdam, 1 t. 4 c. 2 q. £6

Potassium Stannate—
Bombay, 1 t. 18 c. 2 q. £18

Salt—
Accra, 13 t. 15 c.
Akassa, 420
Algoa Bay, 15 19
Antigua, 5
Antwerp, 390
Axim, 5
Berracoe, 10
Boston, 405
Calcutta, 9,703
Ghent, 295
G. Bassam, 5
Halifax 83 6
Honolulu, 20
Manoh, 40
N. Orleans, 500
Newport News, 165
Old Calabar, 345
Para, 100
Rio Nunez, 100
Rio Pongo, 70
St John's, Nfld., 20
Sulymah, 40
Baltimore, 200
Benin, 8
Cameroons. 8 18
Cape Lopez, 9
Charlotte Town, 500
Eloby, 9
Fernando Po, 2
London Ont., 67
Porto Rico, 50 cs.
Sierra Leone, 100

Saltcake—
Antwerp, 275 t. £272
Ghent, 200 167
Baltimore, 182 6 c. 276
New York, 150 15 139

Saltpetre—
Rio de Janeiro. 17 c. 2 q. £21
Zante, 6 7

Sheep Dip -
B. Ayres, 9 t. 2 q. £313

Soap—
Accra, 24 bxs
Algoa Bay, 125 40 pkgs 80 cs.
Antigua, 75
Appam, 100
Assinee 30
Attaboe, 103
Barbadoes, 400 1
Bathurst, 80
Bayin, 60
Belize. 1,042
Bombay, 530
Brussels, 800
Cairo, 10
Calcutta, 250 bdls. 322
Callao, 2
C. C. Castle, 65
Cape Town, 1,224 50
Colombo, 18
Constantinople, 320
Delhi, 8
Demerara, 200
Dixcove. 33
E. London, 250
Gibraltar, 351
Gr. Canary, 920
Hamburg. 200
Havana, 1
Lagos. 330
Larnaca, 12
Lausanne, 120
Malta, 50
Monrovia. 38
Neuchatel, 240
New York, 100 70
Para, 130
Philadelphia, 20
Piræus, 3
Pt. Elizabeth, 250 75
Pt Natal, 750
Pram Pram, 150
Rotterdam, 6 400
St. John's, Nfld., 780 48
Shanghai, 4,072
Sierra Leone, 300
Singapore, 400 50
Teneriffe, 100
Toronto,
Trieste,
Winnebah, 200
Zurich, 120
Amsterdam, 355
Brass, 250
Gr. Bassa, 20
Las Palmas, 905
Lucea, 50
Ottawa, 100
Santiago de Chili, 2
Trinidad, 500
Valparaiso, 50

Soda Alkali—
Bari, 34 brls.
Genoa, 170
Leghorn, 20
Melbourne, 104
Newcastle, 40
Piræus, 20

Soda Ash—
Antwerp, 1,300 bgs.
Baltimore, 700 417 cks.
Barcelona, 80 22
Boston, 1,380 186 204 tcs.
B. Ayres, 332 722 brls.
Chicago, 1,200
Gothenburg, 328
8
Hamburg, 130 20
Malaga, 8
Maranham, 10
Melbourne, 503
Milwaukee, 600
M. Video, 50
Montreal, 167 18
Nauplia, 10
Newport News 500
New York, 3,345 213 100
Pelotas, 15
Philadelphia, 4,640 583 501
Rio de Janeiro, 284 200
Smyrna, 225
Stettin, 200
Sydney, 8
Toronto, 234
Ancona, 6
Bahia, 5
Brisbane, 286
East St. Louis, 112
Genoa, 400
Lisbon, 5
Naples, 20
Syra, 50

Soda Crystals—
Alexandria, 20 brls
Boston, 96
Brentford, Ont., 67
London, Ont, 19 cls.
M. Video, 67 kgs.
New York, 56
Salonica, 20
Sourabaya, 40
Woodstock, 60
Philadelphia, 420 cks.

Sodium Arseniate—
Boston, 8 cks.

Sodium Biborate—
Toronto, 65 brls.

Sodium Bicarbonate—
Alexandria, 20 brls.
Ancona, 30 kgs. 2 cks.
Antwerp, 40
Barcelona, 140
Bari, 15
Bordeaux. 91 2 7
B. Ayres, 110 20
Carthagena, Sp., 30 4 50
Constantinople. 40
Galatz, 8
Genoa, 255
Hamburg, 110 4
Havre, 75
Iloilo 6
Mayaquez, 20
Melbourne, 164
Nantes, 34
Rangoon, 85
Rotterdam, 45
Smyrna, 60
Sydney, 14
Trieste, 110
Trinidad, 100
Venice, 25
Catania, 15
Marseilles, 100 20
Newcastle, 40

Sodium Carbonate—
Rio de Janeiro, 8 cs.

Sodium Chlorate—
Genoa, 10 kgs
Ghent, 11
Hamburg, 40

Sodium Hyposulphite—
Callao, 40 kgs.

Sodium Silicate—
Barcelona, 148 cks.
Caceres, 40 brls.
Corfu, 50
Ghent, 4
Lisbon, 48
Oporto, 15
San Sebastian, 48
Sydney, 43
Melbourne, 33

Sodium Sulphate –
Ghent, 12 brls.

Stearine—
Pernambuco, 10 cks.

Strontia—
Hamburg, 52 t. 15 c. £476

Sulphur –
Algoa Bay, 1 t 1 c. £6
Philadelpnia, 90 348
Boston, 375 1,449
Rio de Janerio, 10 3 q. 3

Sulphuric Acid—
Antwerp, 5 t. 1 c £43

Superphosphate—
Valencia, 75 t. £183
Pasages. 20 65
Champerico, 5 10
Nantes, 99 167

Turpentine—
Rotterdam, 3 bls.
Galatz, 6 dms. £7
Manila, 100
Puerto Cabello, 12 brls

Yarnish—
Banjoewangie, 5 cks.
Malaga, 4
Maracaibo, 4 cs.
Naples, 2
Rio de Janeiro, 2
Hamburg, 3 dms

Verdigris—
Hiogo, 1 ck

White Lead—
E London, 2 cks.
Oporto, 4
Penang, 20 kgs.

Zinc Chloride—
Bombay, 4 t 10 c £50

MANCHESTER.

Week ending March 29th.

Alumina Sulphate—
Rotterdam, 338 bgs.

Aniline Oil—
Antwerp, 10 dms.

Chemicals (*otherwise undescribed*)
Rotterdam, 25 cks.
Hamburg, 31

Dyestuffs (*otherwise undescribed*)
Rotterdam, 7 cks.

Tar Oil –
Rotterdam, 5 cks.
Treport, 30 brls.

Tar Salts –
Hamburg, 20 cks.

Zinc Chloride—
Rotterdam, 10 cks.

HULL.

Week ending March 24th

Ammonium Sulphate—
Dunkirk, 700 bgs.
Ghent, 758
Rotterdam, 400

Bleaching Powder—
Stettin, 65 cks.

Borax—
Antwerp, 20 cks.
Rotterdam, 56

Caust'c Soda—
Hango, 34 dms.
Libau, 80 kgs.

Chemicals (*otherwise undescribed*)
Amsterdam, 20 pks.
Antwerp, 15 cks.
Christiania, 12 34 cs. 41 pkgs.
Gothenburg, 29
Hamburg, 7 15
Harlingen, 15
Libau, 135 2
Rouen, 7
Rotterdam, 2 46 2
Reval, 20 66 p'cs.
Stettin, 19 10

Cottonseed Oil—
Antwerp, 200 c.
Bremen, 35
Gothenburg, 50
Hamburg, 1,781
Rotterdam, 2,190
Stettin, 498

Dyestuffs (*otherwise undescribed*)
Antwerp, 1 ck.
Christiania, 10 bls.
Gothenburg, 1
Hango, 20 cks. 5 cs.
Libau, 2 2
Rouen, 10
Rotterdam, 5
Reval, 19

Ground Slag—
Drontheim, 50 t.

Guano—
Dunkirk, 917 bls.

Linseed Oil—
Antwerp, 118 c.
Bergen, 52
Christiania, 247
Christiansund, 27
Drontheim, 152
Hamburg, 227
Rotterdam, 100
Stavanger, 21

Logwood—
Antwerp, 80 bls.

Manure—
Hamburg, 20 t.

Naphtha—
Dunkirk, 24 cks.

Ochre –
Amsterdam, 10 cks
Hamburg, 42

Painters' Colours –
Antwerp, 16 cks 4 cs. 52 dms. 61 pkgs.
Bremen, 1 cs
Bergen, 86 cks.
Christiania, 62 40 dms.
Christiansand, 3
Flushing, 1
Ghent, 1
Gothenburg, 1
Hamburg, 85 69
Libau, 1
Rotterdam, 11 2
Stettin, 44
Stavanger, 6 dms.

Pitch—
Antwerp, 493 t
Dunkirk, 60

Soap—
Amsterdam, 100 cs.

Sumac—
Libau, 30 bls.

Tallow—
Rotterdam, 37 cks.

Tar—
Amsterdam, 7 cks.
Antwerp, 5
Christiania, 10
Ghent 110
Hamburg, 5
Stettin, 5
Zelzatte, 310 t.

Toluol—
Rotterdam, 50 cks.

Varnish—
Amsterdam 15 cks.
Antwerp, 4 3 cs.
Gothenburg, 2
Hamburg, 3
Rotterdam, 2 cks.
Stettin, 2

GLASGOW.

Week ending March 29th.

Ammonium Chloride—
Italy, 4 t. 14½ c. £115

Ammonium Sulphate –
New York, 50 t. ¼ c. £700
Demerara, 118 19½ 1,571
Barbadoes, 100 1,425
W. Indies, 286 1¾ 4,020

Asbestos –
Rangoon, 957 lbs. £45. 10s.

Bleaching Powder—
Calcutta, 35 t. 10 c. £554

Caustic Soda—
New York, 10 t. 2¾ c. £105

Coal Products—
Creosote Oil
Christiania, 10 brls. £6
Naphthaline
Duisberg, 180 t.
Pitch
Cette, 469 t. 10 c. £290
Antwerp, 105
Caen, 1,120 —
Amsterdam, 278 380
Tar Oil
Cette, 70 t. 17½ c. £240
Christiania, 20 brls. 9

Linseed Oil—
Halifax, 5 t. 3⅛ c. £96
Boston, 10 3¾ 95

Magnesium Sulphate—
Christiania, 33 t. £100

Paint—
Rangoon, £70
Barbadoes, 18 c. 22
W. Indies, 1 t. 17¼ 23
New York, 83

Painters Colours—
Rangoon, £112
Calcutta, 5 t. £96

Paraffin Wax—
Italy, 17 t. 4½ c. £378
Leghorn, 6 13¼ 216

Potassium Bichromate—
Boston, 8 t. 7½ c. £332
New York, 29 5¼ 1,161
Rotterdam, 12 cks. 200

Slag—
Amsterdam, 355 t. £124

Soap—
W. Indies, 1 t. 3⅛ c. £37

Soda Salts—
Christiania, 5 c. £7

Sodium Bichromate—
New York, 7 t. 16¾ c. £256

Sulphur—
Demerara, 7 t. 13½ c £40

Sulphuric Acid—
Rangoon, 31 t. 10 c. £188
Calcutta, 1 18 40

Superphosphates—
W. Indies, 162 t. £450

Tallow—
Rangoon, 1 t. 15¼ c. £46
Christiania, 3 5
Rotterdam, 5 17 200
Amsterdam, 1 5 35

White Lead—
Amsterdam, 3 tins. £4

TYNE.

Week ending March 24th.

Alkali—
Hamburg, 5 t. 15 c.
Antwerp, 10
Rotterdam, 7
Leghorn, 9 3

Ammonia Alkali—
Aalborg, 20 t.

Ammonium Sulphate—
Rotterdam, 50 t.

Antimony—
Hamburg, 7 t. 10 c.
Rotterdam, 2

Barium Binoxide—
Hamburg, 2 t. 4 c.

Blanc Fixe—
Copenhagen, 4 t. 4 c.

Bleaching Powder –
Hamburg, 40 t 2 c.
Antwerp, 71 18
Konigsberg, 20 16
Gothenburg, 15 13
Libau, 65 1
Rotterdam, 22 16
Naples, 2 16
Bergen, 6 6
Lisbon, 9 17
Bremen, 3 6

Caustic Soda -
Hamburg, 4 t 15 c.
Antwerp, 7 2
Horsens, 1 9
Konigsberg, 11
Gothenburg, 61 10
Genoa, 8 14
Leghorn, 7 1
Odessa, 34 19

Colours—
Ergasteria, 14 c.
Naples, 2

Linseed Oil –
Ergasteria, 16 c.

Litharge—
Hamburg, 11 c.
Copenhagen, 11
Genoa, 1 t. 4
Odessa, 3 3
Lisbon, 2 6

Magnesia—
Hamburg, 3 c.
Antwerp, 1
Leghorn, 4

Paint—
Ergasteria, 11 c.
Hamburg, 19
Antwerp, 7
Rotterdam, 19
Genoa, 2 t. 19

Potash —
Ergasteria, 12 c.

Potassium Chlorate—
Libau, 1 t. 1 c.

Rosin Oil—
Rotterdam, 2 t. 13 c.

Soda—
Hamburg, 7 t. 7 c.
Svendborg, 10 3
Gothenburg, 13 9
Frederikshavn, 6 11
Rotterdam, 30 8
Constantinople, 15
Lisbon, 10 5

Soda Ash—
Hamburg, 19 t. 11 c.
Konigsberg, 31 17
Gothenburg, 68 9
Libau, 5 5
Lisbon, 5 4

Sodium Bicarbonate
Aalborg 1 t. 2 c.

Sodium Nitrate—
Gothenburg, 1 t.

Sodium Sulphate—
Leghorn, 150 t. 16 c.

Sulphur—
Antwerp, 11 2 c.
Gothenburg, 25
Rotterdam, 325

Superphosphate—
Copenhagen, 654 t 10 c.
Frederikshavn, 117 15
Rostock, 500

Turpentine —
Antwerp, 2 btls.

Varnish—
Naples, 1 c.

White Lead—
Copenhagen, 4 t. 5 c.

Zinc Ashes—
Antwerp, 1 t. 19 c.

GOOLE.

Week ending March 21st.

Chemicals (*otherwise undescribed*)
Rotterdam, 146 cks

Coal Products (*otherwise undes.*)
Antwerp, 50 cks.
Boulogne, 3
Dunkirk, 25
Rotterdam. 97

Dyestuffs (*otherwise undescribed*)
Boulogne, 2 cks.
Ghent. 1 1 cs.
Hamburg, 10 2

Manure—
Boulogne, 202 bgs.
Bruges, 358
Dunkirk, 180
Hamburg. 490
Rotterdam, 597

Pitch—
Antwerp, 739 t.

GRIMSBY.

Week ending March 24th.

Ammonium Sulphate—
Antwerp, 20 t.

Chemicals (*otherwise undescribed*)
Dieppe 25 cks. 50 btls.
Hamburg. 1 cs.
Rotterdam, 1 4 cks

PRICES CURRENT.

WEDNESDAY, April 4th, 1894.

Prepared by Messrs. Higginbottom and Co., 116, Portland Street, Manchester.

The values stated are f.o.r. at maker's works, or at usual ports of shipment in U.K. The price in different localities may vary.

	£	s.	d.
Acids:—			
Acetic, 25 % and 40 % .. .. per cwt.	6/9 & 10/9		
,, Glacial .. .. ,,	50/-		
Arsenic S.G., 2000° .. .. ,,	0	14	6
Fluoric .. .. per lb.	0	0	3¼
Muriatic (Tower Salts), 30° Tw. .. .. .. per bottle	0	0	10
,, (Cylinder), 30° Tw. .. .. ,,	0	3	0
Nitric 80° Tw. .. .. per lb.	0	0	1¾
Nitrous .. .. ,,	0	0	1¾
Oxalic .. .. nett ,,	0	0	3¾
Phosphoric, 1750° .. .. ,,	0	1	2½
Picric .. .. ,,	0	1	0
Sulphuric (fuming 50 %) .. .. per ton	15	10	0
,, (monohydrate) .. .. ,,	5	10	0
,, (Pyrites, 168°) .. .. ,,	3	0	0
,, ,, 150° .. .. ,,	1	5	0
,, (free from arsenic, 145°) .. .. .. ,,	1	6	0
Sulphurous (solution) S.G. 1025 .. .. .. ,,	3	0	0
Tannic (pure) .. .. per lb.	0	1	1
Tartaric .. .. ,,	0	0	11
Arsenic, white powdered .. .. nett per ton	14	0	0
Alum (loose lump) .. .. ,,	5	2	6
Alumina Sulphate (pure) .. .. ,,	5	0	0
Aluminoferric .. .. ,,	2	10	0
Aluminium .. .. per lb.	0	3	0
Ammonia, Anhydrous .. .. ,,	0	1	3
,, ·880=28° B. .. .. per lb.	0	0	3
,, =24° B. .. .. ,,	0	0	2¼
,, Carbonate .. .. nett ,,	0	0	3¾
,, Muriate .. .. per ton	25	0	0
,, ,, (sal-ammoniac) 1st & 2nd .. per cwt.	39/- & 37/-		
,, Nitrate .. .. per ton	44	0	0
,, Phosphate .. .. per lb.	0	0	10½
,, Sulphate (grey) London .. .. .. per ton	13	15	0
,, ,, (grey) Hull .. .. ,,	13	15	0
Aniline Oil (pure) .. .. per lb.	0	0	5¾
Aniline Salt ,, ... ,,	0	0	5½
Antimony .. .. per ton	45	10	0
,, (tartar emetic) .. .. per lb.	0	0	10
,, (golden sulphide) .. .. ,,	0	0	10
Barium Chloride .. .. per ton	6	10	0
,, Carbonate (native) .. .. ,,	3	10	0
,, Sulphate (native levigated) .. .. .. ,,	45/- to 75/-		
Bleaching Powder, 35 % .. .. nett ,,	7	10	0
,, Liquor, 7 % .. .. ,,	3	10	0
Bisulphide of Carbon .. .. ,,	11	15	0
Chromium Acetate (crystal) .. .. per lb.	0	0	6
Calcium Chloride .. .. per ton	2	5	0
China Clay (at Runcorn) in bulk .. .. .. ,,	17/6 to 30/-		
Coal Tar Products and Dyes:—			
Alizarine (artificial) 20 % .. .. .. net per lb.	0	0	8
Magenta .. .. ,,	0	3	9
Anthracene, 30 % A, f.o.b. London .. per unit per cwt.	0	1	1
Benzol, 90 % nominal .. .. .. per gallon	0	1	2½
,, 50/90 ,, ... ,,	0	1	4½
Carbolic Acid (crystallised 40°) .. .. . per lb.	0	0	6¼
,, (crude 60°) .. .. per gallon	0	1	8
Creosote (ordinary) .. .. ,,	0	0	2½
,, (filtered for Lucigen light) .. .. ,,	0	0	3
Crude Naphtha 30 % @ 120° C. .. .. .. ,,	0	0	6¼
Grease Oils, 22° Tw. .. .. per ton	2	5	0
Pitch, f.o.b. Liverpool or Garston .. .. .. ,,	1	7	6
Solvent Naphtha, 90 % at 160° .. .. .. per gallon	0	1	2½
Lucigen" and "Wells Oils .. .. ,,	0	0	2½
Copper .. .. per ton	41	2	6
,, Sulphate .. .. ,,	15	10	0
,, Oxide (copper scales) .. .. ,,	40	0	0
Glycerine (crude) .. .. ,,	15	10	0
,, (distilled S.G. 1250°) .. .. ,,	44	0	0
Iodine .. .. nett, per oz.	0	0	9
Iron Sulphate (copperas) .. .. per ton	1	5	0
,, Sulphide (antimony slag) .. .. ,,	2	0	0
Lead (sheet) for cash .. .. ,,	10	7	6
,, Litharge Flake (ex ship) .. .. ,,	13	0	0
,, Acetate (white ,,) .. .. ,,	25	15	0
,, ,, brown ,,) .. .. .. ,,	16	10	0
,, Carbonate (white lead) pure .. .. .. ,,	20	0	0
,, Nitrate .. .. ,,	20	0	0
Lime, Acetate (brown) .. .. per ton	6	5	0
,, ,, (grey) .. .. ,,	10	5	0
Magnesium (ribbon and wire) .. .. per oz.	0	2	3
,, Chloride (ex ship) .. .. per ton	2	10	0
,, Carbonate .. .. per cwt.	1	17	6
,, Hydrate .. .. per ton.	17	0	0
,, Sulphate (Epsom Salts) .. .. .. per ton	3	0	0
Manganese, Sulphate .. .. ,,	17	15	0
,, Borate .. .. per cwt.	2	12	6
,, Ore, 70 % .. .. per ton	4	5	0
Methylated Spirit, 61° O.P. .. .. per gallon	0	2	2
Naphtha (Wood), Solvent .. .. ,,	0	3	9
,, ,, Miscible, 60° O.P .. .. .. ,,	0	4	9
Oils:—			
Cotton-seed .. .. per ton	21	10	0
Linseed .. .. ,,	21	10	0
Petroleum, Russian .. .. per gallon	0	0	3¾
,, American .. .. ,,	0	0	5½
Phosphorus (yellow) .. .. per lb.	0	2	2
,, (red) .. .. ,,	0	2	9
Potassium (metal) .. .. per oz.	0	3	7
,, Bichromate .. .. nett per lb.	0	0	4½
,, Carbonate, 90% (ex ship) .. .. .. per ton	16	15	0
,, Chlorate .. .. per lb.	0	0	7¼
,, Cyanide, 98% .. .. ,,	0	2	0
,, Hydrate (Caustic Potash) 80/85 % .. per ton	21	15	0
,, ,, (Caustic Potash) 75/80 % .. ,,	20	0	0
,, ,, (Caustic Potash) 70/75 % .. ,,	19	10	0
,, Nitrate (refined) .. .. per cwt.	1	2	6
,, Permanganate .. .. per cwt.	3	2	6
,, Prussiate Yellow .. .. per lb.	0	0	10¼
,, Sulphate, 90 % (ex ship) .. .. .. per ton	9	15	0
,, Muriate, 80 % (do.) .. .. .. ,,	8	7	6
Silver (metal) .. .. per oz.	0	2	5¼
,, Nitrate .. .. ,,	0	2	10
Sodium (metal) .. .. per lb.	0	3	4
,, Carb. (refined Soda-ash) 48 % .. nett per ton	4	17	6
,, ,, (Caustic Soda-ash) 48 % . ,, ,,	4	2	6
,, ,, (Carb. Soda-ash) 48% .. .. ,, ,,	4	0	0
,, ,, (Alkali) 58 %) .. .. .. ,, ,,	3	10	0
,, ,, (Soda Crystals) .. .. .. ,, ,,	2	17	6
,, Acetate (ex-ship) .. .. ,,	14	15	0
,, Arseniate, 45 % .. .. ,,	11	0	0
,, Chlorate .. .. per lb.	0	0	8¾
,, Borate (Borax) .. .. net, per ton.	28	0	0
,, Bichromate .. .. ,, per lb.	0	0	8½
,, Hydrate (77 % Caustic Soda) (f.o.b.) net pr. ton	10	7	6
,, ,, (74 % Caustic Soda) ,, ,, ,,	10	2	6
,, ,, (70 % Caustic Soda) ,, ,, ,,	9	2	6
,, ,, (60 % Caustic Soda) .. ,, ,,	8	2	6
,, ,, (60 % Caustic Soda, cream) (f.o.b.) ,,	7	17	6
,, Bicarbonate .. .. ,,	6	12	6
,, Hyposulphite .. .. ,,	5	12	6
,, Manganate, 30% .. .. ,,	16	0	0
,, Nitrate (95 %) ex-ship Liverpool .. .. per cwt.	0	10	3
,, Nitrite, 98 % .. .. per ton	29	10	0
,, Phosphate .. .. ,,	15	0	0
,, Silicate (glass) .. .. per ton	5	7	6
,, ,, (liquid, 100° Tw.) .. .. .. ,,	4	5	0
,, Stannate, 40 % .. .. per cwt.	3	0	0
,, Sulphate (Salt-cake) .. .. per ton.	0	17	6
,, ,, (Glauber's Salts) .. .. ,,	1	5	0
,, Sulphide .. .. ,,	8	10	
,, Sulphite .. .. ,,	5	15	
Strontium Hydrate, 100% .. .. ,,	8	10	
Sulphocyanide Ammonium, 95 % .. .. per lb.	0	0	
,, Barium, 95 % .. .. ,,	0	0	
,, Potassium .. .. ,,	0	0	
Sulphur (Flowers) .. .. per ton.	7	12	6
,, (Roll Brimstone) .. .. ,,	5	15	0
,, Brimstone: Best Quality .. .. .. ,,	4	0	0
Superphosphate of Lime (26%) .. .. ,,	2	7	6
Tallow .. .. ,,	28	0	0
Tin (English Ingots) .. .. ,,	75	10	0
Tin Crystals .. .. per lb.	0	0	6¼
Zinc (Spelter) .. .. per ton	15	17	6
,, Chloride (solution, 96° Tw.) .. .. .. ,,	5	10	0

case has, after such a prolonged period, been disposed of. In the end it seems that an amicable settlement has been arrived at. Counsel for the defendant was careful to state that the agreement was not accepted by his client, because he was coerced by any apprehension as to the turn the case might take if carried to a finality. The particulars of the arrangements are naturally not available, but a general idea of the lines upon which they run may be gathered from one of the terms which has transpired, and which practically provides that the Union may advertise their purchase of the defendant's distributing business and agency, but may not represent him as still carrying on business, or use his trade marks for any other than Worcestershire salt. Should any differences arise about the carrying out of the agreement, it has wisely been arranged to refer such differences to the junior counsel of either party.

THE POSSIBILITIES OF SYNTHESIS.

Many times and oft has it been said that in the chemical world the present is an era of analysis, and certainly the majority of things point to the truth of the statement. Mons. Berthelot has, however, recently been good enough to give us an idea of what synthesis is going to accomplish for us in the course of the next hundred years. Chemists have been witted about their analyses of mutton chops and beef steaks, on the ground that with all their skill and knowledge of the percentages of carbon, hydrogen, oxygen, and nitrogen in various edibles, they have so far been practically unable to produce any of them by putting together the requisite quantities of the chemical elements which they contain.

Though one or two isolated cases of the synthetical production of an edible or an article of commerce have been recorded, it is a far cry to the state of perfection we are (according to M. Berthelot) to reach in rather better than a century. It is certainly very kind to promise the rising generation such a time of peace and plenty as he foretells. In fact, the vista which he reveals is so like Elysium that the progeny of the future seem to stand a good chance of actually realising the joys which the oft-postponed millennium is to bring. The unfortunate part of it all is that this beatific vision which has been so vividly depicted for us, like many of its compeers has been conceived at a time when the imagination has been stimulated by the aid of a sparkling solution of carbon dioxide, ethyl hydrate, and essential ethers. Under these conditions things have a knack of taking quite a different aspect to what they do under the cold and calmer scrutiny of the ensuing twelve hours. Moreover, it is as well to fix on a sufficiently remote date for the accomplishment of these nice things, so as to create long odds in favour of the prophet having joined the majority. Our seer has not neglected this precaution.

THE PRODUCTION OF NITRATE IN CHILI.

THE following shows the *officinas* which produced the largest quantities of sodium nitrate during January last. Only works producing 50 quintals and above are given. The returns are expressed as Spanish quintals of 101lbs. avoir.

Rosario de Huara	111,045
Santa Luisa (Taltal)	105,500
Ramirez	96,950
San Jorge..	95,083
Union	75,000
Santa Isabel (Toco)	72,000
Agua Santa	56,700
Tres Marias	55,000
La Palma	50,000

A NEW COAL-CUTTING MACHINE.

AT the last meeting of the Manchester Geological S communication was read by Mr. Crankshaw on a pneumatic electric coal-cutting machine, in the course of w reader stated that it was strange that whilst mechanical wa seding manual labour in so many branches of industries, a everything possible was being done to improve appliances for screening, winding, and hauling coal, and the ventilating and of mines, the actual tool for extracting the coal—namely, the pick—was practically the same as it was a hundred years a knew of no more exhausting and laborious work than that of hol The body was in a constrained and unnatural position, and being close to the floor, the worst atmosphere of the workin impregnated with coal dust and carbonic acid gas, must be The marked and disfigured faces of many of the men, especia working in hard seams, such as cannel, proved how little th protect themselves from splinters from the pick. He thou not only for the sake of economy, but in the cause of humar it was a reflection upon local enterprise that there was not coal-cutting machine at work in the Manchester district to-day motive power, they had three methods of driving to choose steam, compressed air, and electricity. Steam, however, migh aside at once as impracticable. There was much to be said i of compressed air. It was safe, and helped to cool and vent workings, but the loss in transmission was very great. E could be transmitted by the loss of not more than 5 per cent., that the difficulty from sparking had been overcome it was, sidered, the motive power of the future. Hurd's machine wa combination of the two. It had the advantages of compre whilst the motive power was electricity, and, taking the mecha motive power together, it was decidedly the best machine he seen. Briefly stated, it consisted of a cutter-bar drill and ar motor connected by suitable gearing. Mr. Crankshaw then ga technical details with regard to the construction of the machin method of working, remarking that it had a strong, neat, work appearance, and gave the impression of being able to stand t and tumble of the mine, from ironstone nodules in the coal t roof on the face, without much damage; and he thought the was to be congratulated upon his success—Mr. Hurd, the inv the machine, who was present, gave some further details capabilities. It would, he said, easily cut one yard per m medium hard coal; in most mines it would do much more, some it would do less. One advantage of the machine which described over some now in use was that whilst these latter in the coal produced only dust, this one produced saleable nu machines, Mr. Hurd added, could not be produced fast enou strange to say, the demand for them was mainly from abroad. which a large photograph was exhibited) was being shipped quin. Inquiries came from such distant countries as India an whilst the home demand was practically *nil*. Yet the sav incredible. Asked as to the saving as compared with hand Mr. Hurd said, judging from the results already obtained in Y he had no hesitation in putting the saving—even with the co air machines of the old type—at from 1s. to 3s. per ton.

THE GAS SUPPLY OF LONDON.

THE quality of the gas supplied to the City of Lon the week ending March 31st, 1894, was good. A to the report of Mr. W. J. Dibdin, chemist and tendent gas examiner to the London County Council, the tests the various testing stations showed no deficiencies in illu power. The following figures have been prepared fr report, and show the average composition of the gas calcul the mean test:—

Company.	No. of districts tested.	Illuminating power (in stand. sperm candles). Mean average.	Sulphur. Grains in 100 cb. ft. Mean average	Ammonia Grains in 100 cb. ft. Mean average.
Gas Light and Coke Co.	13	16·40	10·85	0·3
South Metropolitan Gas Co.	6	16·48	11·83	0·41
Commercial Gas Co.	2	16·45	7·45	0·60

The standard gas supplied by these companies should illuminating power of 16 sperm candles, and contain not more grains of sulphur and 4 grains of ammonia per 100 cb. ft. of ga average of three days with a pressure of one inch between su midnight, and six-tenths of an inch between midnight and suns

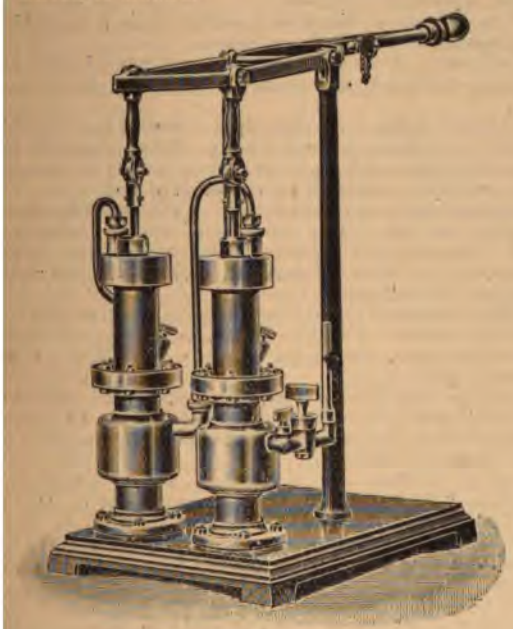
THE GERYK VACUUM PUMP.

a well-known fact that most of the present types of vacuum mps for laboratory purposes do not find favour with their users, reasons for their not doing so are not very hard to find. simple cheap glass apparatus so readily connected to the ap, does not give a vacuum in the true sense of the word, how- eful they may be for ordinary laboratory work. many a demonstrator has shelved the simple experiment of ice by the evaporation of water in a vacuum, solely on account rouble of getting his vacuum pump into workable condition, m fear that after all the vacuum just at the critical moment will sufficiently high. Hitherto nearly every hand mechanical pump has possessed the following defects :—

-Excessive friction, making them very hard to work.
—Dirtiness in use, the oil instead of lubricating the working rts, bespattering the operator and his surroundings.
-Uncertainty of action.
—The need of frequent overhauling before use.
-Inability to produce a good vacuum

hanical air pumps have always required very tight-fitting pistons hem to work anything like airtight, and with the very best fit- ere was always some little clearance between the piston and the y valve. Consequently the pumps could never be absolutely d of air. Then again, if the pumps were out of use for a week the pistons and valves would become corroded, causing leakage, piston would become worn and require re-adjustment.

bviate these defects much ingenuity has been expended in the per- of the Sprengel pump, of which there are endless varieties. can be made to produce a practically perfect vacuum, but they slow in exhausting that their field of operation is enormously ed. They soon fail to work efficiently if not frequently cleaned, e mercury re-distilled.



No. O Duplex Vacuum Pump.

neet these objections the "Geryk" Vacuum Pump has been d and subjected to most exhaustive trials by eminent scientists, kers being the Pulsometer Engineering Co., Ltd, Nine Elms orks, S.W.

essential features of this pump are, first, the superiority of the obtained and, secondly, the ease and certainty of working. Geryk is made in two forms—the single for ordinary laboratory d the double for specially high vacua.

the single pump a vacuum of within one-third of a millimetre obtained, which enables all usual vacuum experiments to be nd readily shows the formation of ice by the evaporation of

results obtained by the double pump are far in advance of those y any mechanical pump ever produced before, as a vacuum of n ·005 of a millimetre short of a perfect vacuum has been d by its use, according to McLeod's gauge. This is equal to en by the Sprengel pump, unless in the hands of very expert rs.

All the results obtainable by the electric spark in a vacuum tube can be shown by the use of this pump.

The saving in time by the use of the "Geryk" pump over a mercury pump is apparent when the relative capacities of each are considered. This enables scientific experiments to be carried out, which otherwise have scarcely been possible owing to their tediousness. Our illustration shows one of these pumps, the price of which is £13. 13s. The single pumps are much cheaper, being only £3. 15s.

Parliamentary Jottings.

GAS SUPPLY OF THE HOUSES OF PARLIAMENT.

IN the House of Commons, on Monday, Mr. J. Rowlands asked the First Commissioner of Works whether he could state what quantity of gas was consumed in the Houses of Parliament in the year 1893; what was the total cost of the same; and what was the price charged per 1,000 cubic feet by the company supplying the gas.

Mr. H. Gladstone: The total consumption of gas in 1893 in the Houses of Parliament and their precincts was 27,871,000 cubic feet; the total cost was £4,223., besides £33. for meter rents; and the price was 3s. 1d. per thousand feet, except for the street lamps, for which the charge is 2s. 2d. per thousand.

Mr. J. Rowlands said he understood that the vestries of London were paying for the gas used by them for all purposes at a uniform cost of s. 2d. per thousand, and he should be glad to know whether the right hon. gentleman would approach the gas company with a view of getting them to supply all the gas required at the lower rate.

Mr. H. Gladstone: There are two qualities of gas, I believe, supplied by the company; but I will inquire into the matter.

THE FATAL ACCIDENTS INQUIRY BILL.

On the motion of the Lord Advocate, this Bill, to make provision for public inquiry in regard to fatal accidents occurring in industrial employments or occupations in Scotland, was brought in and read for the first time.

Selected Correspondence.

SALFORD SEWAGE WORKS.

(To the Editor of the Manchester Guardian.)

Sir,—In your issue of April 5th I find a letter from Mr. Carter Bell impugning the accuracy of the analyses made under my directions for the Mersey and Irwell Joint Committee. These charges are wholly unfounded, and the accuracy of the analyses will be fully substantiated by me at the next meeting of the Committee.—I am, &c.,

H. E. Roscoe.

10, Bramham Gardens, Wetherby-road, S.W.,
April 5, 1894.

Correspondence.

SALFORD SEWAGE.

To the Editor of the Chemical Trade Journal.

Sir,—I am perfectly correct when I say that the acid permanganate is not the proper test for the Salford effluent, containing, as it does, salts of iron. In the 1891 report of the experiments carried out at the Salford works, the referee chemist reported to the Salford Corporation in the following words (page 74): "The precipitants used in this process are a solution of sesqui-chloride of iron (ferric chloride) and a solid: viz, dry oxidised gas lime. The treated sewage contains protoxide of iron and sulphide, and sulphite of lime, &c., and these substances readily take up oxygen from permanganate of potassium, becoming oxidised; and consequently would apparently represent oxygen required to oxidise organic matter to the unwary analyst. This oxygen test in this instance cannot be relied upon at all as a test for oxydisable organic matter, therefore it was not given in Table D."—I am, &c.,

The Cliff, Higher Broughton. J. Carter Bell.

ANSWERS TO CORRESPONDENTS.

T. C.—We are obliged for your kindly testimony. They have been sent on.
J. F. B.—We shall be pleased to do as you request, and have the matter in progress.
P. E.—Yes. It is decidedly an improvement.
X. Y.—We cannot advise you on such a point It is a personal matter, and you must treat it as such.
Soap.—It has already been done. Its success depends upon how it is operated.
H J.—Vol. III The Index will give you the rest.

SOCIETY OF CHEMICAL INDUSTRY.

MANCHESTER SECTION.

THE annual general meeting of this Section was held on Friday, 6th inst., at the Victoria Hotel, Ivan Levinstein, Esq., being in the chair. The only change in the committee was the substitution of Mr. Thomson for Mr. Truby. While the scrutineers were performing their task, Mr. W. Naylor, A.M.I.C.E., read a paper on "Comparative Results of some Modern Systems of Sewage Treatment." In the course of his remarks the author said: Since the formation of County Councils in the year 1888, the prevention of rivers pollution has received a considerably increased amount of attention, due to the fact that the administration of the Rivers Pollution Prevention Acts is now in the hands of bodies not themselves in default, and moreover, the local authority having administration of the Act is not unduly influenced in cases of manufacturing pollution owing to the preponderance of representatives directly engaged in manufactures. The action of County Councils therefore in this matter is distinctly towards broad uniformity. And this action, whether it be commendable or otherwise, has resulted in numerous schemes of sewage treatment and various descriptions of plant being placed upon the market for dealing with all kinds of noxious and polluting liquids.

I purpose dealing with the question of sewage treatment only. Manufacturers as men of business, I presume, may be safely left to manage their own affairs, although I would hardly venture to say the same concerning local authorities on this point. It certainly may appear a bold statement to make, but "by their fruits shall ye know them." In fact, it will probably be admitted that members of local authorities are elected upon broader and indeed more honourable grounds than an intimate knowledge of sewage treatment, that they represent the ratepayers' interests generally, and that upon technical points they should consult specialists. Unfortunately my experience is that upon matters appertaining to the treatment of sewage they are very rarely consulted, and even when they are, their advice is considered after, and a long way after, the question of £ s. d.

In the larger corporations the matter is left to a sewage committee, not universally formed of the most influential and intellectual councillors. Of course, honourable exceptions will occur to all of us here at once, but broadly speaking a sewerage committee is not a "kid glove" committee like the finance, library, and public works committees, and is often shelved, therefore, for the "practical men" on the Council. Now, to these practical men, so called, nothing in the world approaches "simplicity itself" as the proper treatment of sewage. Each one holds in his bosom a scheme destined to solve this complicated plot and to save the impoverished ratepayers' money. But while this committee of practical men is in solemn conclave assembled, one of the kid-gloved councillors stealthily creeps in with a pamphlet, and from that time forward each in his turn arms himself with a pamphlet defying all comers, and a terrible war is waged on the various systems. It is just these wordy wars which prompt me to offer the following results, and to attempt roughly to delineate a sort of table from which, perhaps, a uniform line of action may be suggested. In each town, so far as my experience goes, the discussions on sewage treatment seem to be conducted on altogether different lines. Analyses are put forth, copied from various printed pamphlets, which I hesitate not to say are absolutely worthless. I lay the results to follow before you, therefore, holding a brief from no one. The samples were taken personally, and not after due notice, but on surprise visits.

At the outset I think I may take it that however divided the opinion may be regarding the treatment of organic matter in solution in domestic sewage, all suspended matter can be and ought to be eliminated (by either subsidence or precipitation). The dissolved impurities or organic matters in solution must claim our common attention as objectionable. They are objected to on the following grounds:

1. That they decompose, so causing a nuisance.

2. That they are liable to become the home and breeding place of disease-producing germs. It has been proved that the organic matter in sewage is *per se* harmless except in so far as it robs natural streams of dissolved oxygen, and this only to a very slight extent.

The micro-organisms present, however, affect it in so much that they cause its decomposition, and on this fact certain schemes of sewage treatment mainly depend, viz., the sterilisation systems.

Sterilisation.—In making a table of the various systems, the plainest line of demarcation can be drawn between sterilisation systems and all others. While the sterilisation systems attack the organism in the open field with the object of killing it outright, all others aim at depriving it of food and so starving it out. In fact, the two systems may be compared to a pitched battle on the one hand and a siege on the other.

But to my mind it has always appeared useless to attack and kill organisms and yet not destroy their food.

It is claimed by advocates of the sterilisation systems that the decomposition of the organic matter is arrested permanently, since the atmosphere contains only non-pathogenic germs which exude organic as inert or inorganic.

This argument, however, cannot stand, as pathogenic ferment and have been discovered in natural waters. They have also be covered in the atmosphere. As proof of this, one has only to p vessel containing organic matter, such as beef tea, in the open sphere in summer weather, when it will soon begin to decompo give off most disgusting smells.

Further, I will venture to say there are very few rivers in Er which do not receive crude sewage in some shape or form, and th condition under which sterilisation systems can approach success i universal adoption, except in cases of towns very close to the sea, the effluent has but a short distance to run before being lost.

Now, the effect of a current of electricity passing through wate taining organisms is to kill them, granting the current is of suf EMF. (about 5 volts); but its effects upon spores have not yet demonstrated.

It has been proved that the

Bacillus tuberculosis	is killed by an EMF of	2·16	volts.
Bacterium lactis	,, ,,	2·26	,,
Bacterium aceti	,, ,,	3·24	,,

Granting so much, then, for the electrical treatment so far as sation is concerned, I can only refer to the Salford trials for the of the treatment upon dissolved organic matter, for I am not awar at any place it has been permanently adopted.

The albuminoid ammonia in the effluent was after filtrati different times:—·25 parts per 100,000, ·17 parts per 100,00 parts per 100,000, ·11 parts per 100,000, ·17 parts per 100,00 parts per 100,000, ·10 parts per 100,000, ·11 parts per 10 ·11 parts per 100,000, ·13 parts per 100,000, ·092 per 100,000. results are after filtration.

These figures need no comment, but speak for themselves as factory; and as this is the first system mentioned as satisfactory th matter of importance is the cost.

High as the cost of this process works out it is probable lengthy practice it would work out higher.

The efficiency of the treatment, or more properly the ext purification, depends upon the amount of current passed throu sewage.

We may take it that in the electrolysis of sewage (as in anythin the amount of chemical decomposition is directly proportional amount of passing current, and that a given quantity of sewage re a given quantity of current for a given period of time.

This current has to be passed between the electrodes throu intervening sewage. This intervening sewage offers a amount of resistance, the resistance following Ohm's law in liqu in solids, viz., "The *Current* varies directly as the EMF inversely as the resistance."

It follows, therefore, that the greater the distance between the the less the current for a given EMF., or the greater the di between the plates, the higher must be the EMF. to cau unvarying current.

As the plates are oxidized away, therefore, and the distance be them is augmented, the speed of the dynamos must be increas the engines run quicker, and more *coal and labour* consumed to the current in *quantum suff.*

At Salford the plates were ½ inch thick, and the intervening ⅝, initially. Finally, therefore, the space would be 1⅛, an initial EMF. to the final as 5 : 9, and the initial to the final c current would follow the same ratio except in so far as large qua of power can be generated more cheaply than small, compare with unit.

A valid objection to this reasoning may be advanced— that a will be found in practice at which it would be cheaper to ren plates than to pass current through so great a space; but in tha the remaining plates should have been weighed in as a loss o and cost calculated upon the average current through the whole the plate, not upon a run of 132⅓ hours.

I have mentioned this objection to the test before, and was me the reply that in practice the EMF. required is constant. Wel is so, surely a fact of such importance, a fact which goes in the well-established theory throughout, and all other known pr should be accounted for and regarded as an important discover not allowed to rest upon the *ipse dixit* of anyone.

Precipitation.—Concerning the comparative merits of cont flow or quiescent tanks, nothing here need be said more than that the depends upon local conditions. Where land is scarce, small qui tanks give as good results as large continuous flow tanks, but more labour, the extra cost of which has to be compared wi interest on capital sunk for extra land.

Continuous tanks could be used at a lower level, except th sludge must be relieved of the supernatant liquor before em which necessitates pumping. To obviate this difficulty two cont

nks have been lately brought out, in one of which, the "Ives," dge is pumped from a conical shaped bottom while the tank is in on.

principle is doubtlessly a good one, and one which sooner or ill generally be adopted.

objections to it are :—

hat sludge immediately above the outlet *only* is pumped out, followed by the sewage, which soon makes the sludge thin.

he sludge remaining on the sides decomposes, so affecting the t. The results of the working of this tank at Tamworth show a on of the suspended matters from 173 parts per 100,000 to 3.

nprovement on this is the "Candy" tank, which has a flat bottom m which the sludge is syphoned through a revolving arm. The n be worked with a foot head to 10 times its capacity per 24 nd emptied while in use. A result of the working shows a re- n of the suspended matters from 39·3 per 100,000 to 0·9.

tanks are fed at the bottom, under a bonnet with a dip pipe.

DATION PROCESSES: 1. *Precipitants.*—Much has been written d concerning oxidation by precipitants, but very little done, and the advantages of ferric salts over ferrous have been very much ted. It is, no doubt, truly contended that ferrous salts are reducing, ric salts oxidizing agents, but this much is certain, that no ferric ve yet been put into use which will produce a satisfactory alone, *and that much ought to be generally known.*

great amount of attention paid just now to oxidizing precipitants s the idea of a dynamo tenter running short of current, devoting ttention to the exact setting of brushes, oiling, etc., instead of the engine faster, or decreasing the resistance to the current. ention is directed to the wrong point.

ral Media.—By the term "natural media" I wish to be under- ose media in which oxidation is not brought about by direct contact, but by the nitrifying organisms, and I must confess at at this, to my mind, is the best method of sewage treatment uch media can be obtained. Of course, the limitation is very ry and very wide; but, at the same time, I hesitate not to say here failures have resulted they have accrued in all cases rom mismanagement or unsuitable physical conditions.

incoln for instance, where it has failed, a commencement was ith 55 acres of land.

was not underdrained, and crude sewage put on without any at precipitation.

after it was found that the land had become choked, and a as made to subsidence tanks and draining.

precipitation by lime, followed by lime and iron, the whole o be abandoned for polarite filters.

e case of Preston, a tract of sandy land has been embanked from ble Estuary (600 acres in extent), portions of which are from time literally submerged with sewage.

land is not underdrained, but the sewage left to drain away r it may find outlets. Such outlets, however, are very scarce, ng a considerable portion of the day the farm embankment is by sea water.

verage level of the surface is 13 feet above ordnance datum, and spring tides rise to this height, the ground water rising under of course with the tide. On the ebb tide the absorbed water ts way out first, then a mixture of sewage and sea water, and he sewage. But at this point of time the flood tide commences es back the sewage to the top, and so on *ad infinitum.*

ne occasion I observed about 2 or 3 feet depth of sewage on the d on this, on a floating raft, workmen were engaged repairing ankment.

ffluent taken at low water gave

Chlorine	69·7 parts per 100,000.
Dissolved solids	360·3 parts per 100,000.

anyone could select such a site for a sewage farm is surely a

flagrant cases of inappropriate sites are Chorley, Blackrod, epton Mallet (Somerset).

of these is a farm forming a river bank. In the first case the s an average fall of 74 feet in its width of 1,056 feet, or about 1

rod has an average fall of 74 feet in its width of 400 feet, or about while Shepton Mallet has an average gradient of 1 in 6.

eedless for me to point out that the sewage in these three cases s a straight line for the river, which explains the high figures y its analyses.

cially Prepared Fermentative Media.—An impression has long road among the Local Board "practical men" that coke is the hing through which to filter sewage.

n and figures are of no avail with a sewerage chairman who his mind on coke. It is an old-established institution handed om father to son, and will die hard—but die it must, for (as y the results at Nelson) it has no effect on dissolved organic matter at ordinary filter depths and rates of filtration. This coke, however, was pulled out and burnt during the recent coal famine, when it probably did more good than it ever did before. Its ghost, however, is now on exhibition at Baildon in the form of a "Carbon" filter, so called.

Ashpit and privy refuse is here burnt (carbonised, it is claimed) and a filter made of the resulting ash.

This forms a good fifter, but that is all, and if of sufficient area would no doubt form a good nitrifying bed.

This is a process which at once appeals to the minds and pockets of local boards. No precipitants, no expensive filters, refuse disposed of, no pollution!

The impossibility, however, of its application on a large scale must be apparent at once to any but the merest tyro.

The effluent from a very recent system has given analyses of '42 and '31 parts of Alb. NH_3 per 100,000. The birth and fame of this process is the best example of that utter recklessness with which people launch into the question of sewage treatment which I ventured to call your attention to in the hope that some definite *data* for choice of a system may be suggested here. A person notices certain effects resulting from a filter through which the sewage of *one house is passed.* These effects (not at all unusual in themselves) form the subject of leaders in the standard engineering journal, patents are taken out, and a 40 page pamphlet issued, offering a process without money and without price, which process as seen at Towcester is more nor less than a sand and gravel filter, and not the best at that, as evidenced by the samples taken without notice.

Prior to the reading of this paper, Mr. W. Thomson read a short paper on "Indiarubber," which was virtually a reply to certain portions of Dr. Weber's paper on "The Vulcanisation of Rubber."

The meeting was well attended, about 40 members being present. Owing to the number of papers to be read it was decided to extend the present session into June.

Reports of Companies.

THE COMMERCIAL GAS COMPANY.

The report of this Company for the half year ended December 31st states that the revenue accounts shows a nett profit, including £627. received for interest, of £59,759. This added to the amount brought forward makes £62,754. Deducting therefrom £3,712. for interest on debenture stock, there remains a balance of £59,041. The directors recommend dividends at the rate of £12. 10s. per cent. per annum upon the old stock and of £9. 10s. per cent. per annum upon the new stock, both less income-tax.

MESSRS. A. & F. PEARS, LIMITED.

The directors of this Company declare an interim dividend on the ordinary shares at the rate of 8 per cent. per annum, less income-tax, and also on the preference shares, at the rate of 6 per cent. per annum, less income-tax.

FOREIGN DIVIDENDS.

The Chemische Fabrik vorm. Goldenburg Geromont und Cie, of Winkel (Rheingau), has declared a dividend of 6 per cent., the same as in 1892, placing M. 4939 to the reserve.

The directors of the Potash Works, at Aschersleben, in their report for 1893 again announce a dividend of 10 per cent.

The Farbwerke vorm Meister, Lucius und Brüning, of Hochst-a-Maine, will declare a dividend of 28 per cent. (as against 26 per cent. last year) at the General Meeting, to be held on the 30th inst.

The Chemische Fabrik Petschow, at Danzig, also declares a dividend of 7 per cent.

The Chemische Fabrik Ascania, at Leopoldshall, declares a dividend of 8½ per cent. for the past year, as compared with a dividend of 3 per cent. in 1892.

AN AWKWARD CUSTOMER.—In the fire which occurred recently at the London Docks, one building contained from £250,000. to £300,000. worth of quicksilver. Being stored in iron flasks, it was not likely to be damaged much, though the uncertainty of delivery interfered with the business in this commodity. If, however, any of the flasks had cracked owing to the excessive heat, this stuff might have proved unpleasant to deal with.

Legal Intelligence.

HIGH COURT OF JUSTICE.

QUEEN'S BENCH DIVISION.

(Before Mr. Justice Hawkins and a Special Jury.)

CHAMPION AND CO. (LIMITED) *v.* THE BIRMINGHAM VINEGAR BREWERY COMPANY (LIMITED).

THE plaintiffs in this action carry on an old-established business as vinegar makers in the city of London. They complained that the defendant company had damaged their trade by publishing a libel concerning them under the following circumstances:—In August, 1893, a grocer, named Tibbs, was summoned at the petty sessions at South Shields for selling vinegar adulterated with a highly deleterious compound, viz., pyroligneous acid. Evidence was given that the vinegar was purchased of a dealer at Newcastle named Leach, who in turn received it from the plaintiff company. It appeared from Leach's evidence that the case had been adjourned for a fortnight in order that Messrs. Champion might make an analysis. A telegram had been received from them saying, "Monstrous that Tibbs should have been summoned. Sample examined to-day is perfectly pure and excellent vinegar. No pyroligenous acid. Your analyst is grossly mistaken in judgment." In their letter the plaintiffs repeated that the analyst had made a mistake, that although they had a very large output—as much as a cask a minute, and 10,000 bottles daily—their vinegar had always borne the highest character, and they added a P.S.: "As sellers in bulk we are advised we cannot reasonably be expected to undertake to defend a case of this kind." The Bench observed that it was evident Messrs. Champion had no desire to defend the charge, and it was most unfair that the disgrace should be visited upon retail dealers, when it really belonged to manufacturing firms. A fine of 5s. and costs was imposed. A report of the case appeared in certain trade papers. The complaint of the plaintiffs was that the defendants had had these reports reprinted, and had circulated them among the customers of the plaintiffs, in order to create the belief that the plaintiffs' vinegar was adulterated with pyroligneous acid. The plaintiffs also contended that a letter written by the defendants to a trade paper commenting upon the case was a libel, and that the defendants had maliciously reprinted and circulated it in the vinegar trade. The defence was that the words complained of were a fair and accurate report of judicial proceedings, that the defendants' letter was a fair comment on a matter of interest in the trade, that they acted without malice, and that there was no libel.

Sir E. Clarke having opened the plaintiffs' case,

Mr. Bigwood, M.P., was examined, and said he was the managing director of the plaintiff company. Their vinegar was absolutely pure. It was sold by about 20,000 customers of the company. Their annual output was upwards of 1,000,000 gallons. The defendant company were competitors in the trade. He sent the telegram and letter alluded to before the magistrates. [The learned Judge: So far as I can see, the magistrates' observation on the case was quite uncalled for.] The sample sent to the plaintiffs was examined by their analyst and pronounced pure. There was delay through waiting for another analysis.

Cross-examined by Mr. Lockwood.—The representative of a trade paper called on him and he gave his views on the matter. They were published. He did not consider this was an interview. He knew the process, as he had experienced it. It was not at his instance that the reporter called. The report was in the "Grocers' Journal." [Mr. Justice Hawkins.—I have not got the newspaper.] Mr. Lockwood.—Probably your Lordship does not take it in. (Laughter.) Witness.—The trial was adjourned for a fortnight that the company might have an opportunity of furnishing an analysis. When it came on again they took no part in the proceedings. They were inexperienced in such a matter and did not know what to do.

Evidence was then given as to the printed slips circulated by the defendant company among the plaintiff company's customers.

Mr. Butterfield, the secretary of the plaintiff company, said that since the circulation of these leaflets the company's trade fell off by £6,000. in the year, of which 25 per cent. would be profit.

Cross-examined by Mr. Lockwood.—The export trade was included in their computation, although it would not be affected by the action of the defendants. They manufactured acetic acid. That was concentrated vinegar.

What would be the effect of it on a salad? (Laughter.)

The learned Judge.—Or on the consumer? (Laughter.)

Re-examined.—Pyroligneous acid was different from acetic. They never had such a thing on the premises.

Mr. Lockwood, Q.C., intimated that the defendants would not call witnesses.

The learned counsel on each side having addressed the jury,

The learned Judge summed up. The jury had to consider whether what the defendants had done was merely in fair and honest advancement of their own trade, or whether they had published some which was untrue or contained untrue implications and was in de tion of the credit and honesty of a rival trader. It was admitt the defendants that there was no foundation for any imputatio the plaintiffs' vinegar contained pyroligneous acid. As regarde proceedings at the petty sessions, it was admitted that the reports lished were substantially correct, and if there were nothing furthe the publication of an accurate report of judicial proceedings no g would be given for an action. He (the learned Judge) thought t was most unfortunate that at those proceedings the Bench had ma observation derogatory to Messrs. Champion, which had really rise to this litigation. Under the circumstances Messrs. Chan their analyst having reported that the vinegar was pure, wer called upon to take part in the proceedings. It was regrettable there was not a further adjournment of the case, the opinions o two analysts being directly contradictory. The gravamen of the lay in the defendants' circulating among the plaintiffs' customer printed slips and in the comments contained in their letter to a paper, in which they spoke of the plaintiffs "trying to bounc Court." As to actual damage suffered by the plaintiffs the evi was not very definite or satisfactory. It not being contended tha plaintiffs' goods were in fact adulterated, they would leave the without a stain on their character as honest traders.

The jury subsequently gave a verdict for the plaintiffs, damages and judgment was given accordingly.

SUPREME COURT OF JUDICATURE.

COURT OF APPEAL.

(Before Lords Justices Lindley, Lopes, and Kay.)

BENNO JAFFE AND THE DARMSTAEDTER LANOLIN FABRIK *v.* RICHARDSON AND CO. (LEICESTER), LIMITED.

This was an appeal by the defendants against a decision of Justice Romer. The plaintiffs are a company incorporated in Pr and their claim was for an injunction to restrain the defendants infringing letters patent (No. 4,992 of 1882) for "a new or imp manufacture of fatty matter from wool fat," the invention having communicated to F. C. Glaser, of Berlin (the original patentee), b Otto Braun and Dr. Oscoar Liebrich. The invention related to or improved product termed "lanolin."

The arguments of the defendants who appealed are fully set fo this *Journal* No. 344, p. 400.

From the plaintiffs' case his Lordship gathered that the inve only discovered the new process after a long course of investigatio experiment. The new process, stated shortly, is this:—Take the (or lye, as it is sometimes called) coming from wool washings by or alkaline soap. Refrain from acidulating it—that is, take the undecomposed lye—and, bearing in mind that the three ingredie (1) cholesterin fats, (2) soap, and (3) impurities—are of different sp gravity, separate them mechanically by the well-known best and qui method—that is, by a centrifugal machine. Take the light chole fat, or "raw lanolin," so separated, and knead it in cold water. F purification can be obtained by putting it in hot water (so sepa the fat) and then putting the fat melted again through the centr machine, or dissolving the fat by a solvent, and separating the so by any of the well-known means. And the fat so cleansed is then kneaded with water, and the product "lanolin" is obtained. specification also points out that you can obtain the product commercial wool fat by treating the latter with an alkali so obtain a milky fluid, which is equivalent to the fresh, undecom lye, and can be treated accordingly. The learned Judge thou clear that no objection could be properly made to the patent, eith the ground that the invention was not useful, or that it was not n not good subject matter. The substance called "œsypus," kno and produced by Dioscorides, had not the properties of "lanolin," moreover, "œsypus" was practically unknown as a product for years before this patent, and no one knew when it was last used was last referred to in any Pharmacopœia in 1720. No doubt cast aside because it was not practically useful. If any one could pr a useful article by merely following the directions of Dioscorides h at liberty to do so notwithstanding the patent. His Lordship do whether this could be done, but it could not be said that those dire were an anticipation of the plaintiffs' patent. His Lordship over several other minor technical objections, among which was one sufficiency of the specification, and held the patent to be good. Lordship held that the defendants had infringed the patent, and that they had taken the essence—"the pith and marrow"—o invention, and he granted the usual relief against the defenda infringers.

Their Lordships affirmed the decision of Mr. Justice Romer, dismissed the appeal with costs.

Lord Justice Lindley, in delivering judgment, said that, as was in actions of this kind, there were questions arising partly on th

n of the patentee's specification and partly on infringement. In ring the question of anticipation it became important to in what was known at the date of the patent. [His Lordship d what was then known concerning the manufacture of fatty from wool fat, referring to the observations of Dioscorides on duct termed "œsypus," and continued] All that was common dge. But what was not formerly known and what was disclosed present patent was the good commercial method of getting in" by washing. The object of the former systems was not the of some pure product out of wool fat, but the extracting of the t from the wool. The patentee's object was to get something than the wool fat out of the wool. [His Lordship then ed the patentee's process and discussed his specification.] gh the claim was rather clumsily drawn it was quite evident, he specification was closely looked into, that the substance of n was not the particular method of separating the various in- ts by means of the centrifugal machine. It looked at first sight e patentee was claiming the mode of separating by means of a gal machine as an essential part of his invention. But his ip did not think that anyone having competent knowledge of ject would think that that mode—and his Lordship was satisfied was not—was the substance of the claim. The Court was not to tie the patentee down in that manner. That was quite clear he authorities Applying the principle which the authorities hed, his Lordship was satisfied that to construe this specification ing as an essential part of the invention the use of centrifugal ery would be to misconstrue it. His Lordship thought that it any other appropriate mechanical method at that stage of the , though not the machine indicated. As regarded the alleged tion, his Lordship did not agree that the process mentioned by ides had anything to do with this case. It was an essentially t thing. The process invented by the patentee in the present s not previously known. His Lordship was therefore of opinion e patent was good and had been infringed by the defendants, t, therefore, the appeal must be dismissed, with costs.

Justice Lopes concurred.

Justice Kay delivered judgment to the same effect.

Our Book Shelf.

FOR CONVERTING POUNDS INTO KILOGRAMMES. By T. H. r. Cloth Boards. Manchester: Taylor and Co. 1894 d.

e tables are very neatly got up, on good paper mounted on d cloth-boards with gold lettering. They fold up like a book at the size of Royal quarto. They give the equivalents of weights in metric values from one ounce to 1,000 pounds. e printed in bold type, every tenth line being printed in larger d under-lined with a red line, so that reference is rendered easy. ef feature about the tables is their accuracy, which is vouched his is a characteristic not always found in tables of this kind, and adds to their value In addition, a number of other useful nts are given, including the chief measures of length and , all of which are carried to three places of decimals. Such ill be found very useful to works chemists, managers, and many and, seeing that the guaranteed accuracy is coupled with a e price, should come in for a good deal of patronage.

FOR CONVERTING YARDS INTO METRES. By T. H. Taylor Boards. Manchester: Taylor and Co. 1894. 2s. 6d.

e tables form a companion to the foregoing, and are got up in e style. They cover from one inch up to 1,000 yards. The s of the yard (quarter, half, and three-quarters) are printed in red ile the whole numbers are printed in large, black type, each d its fractions being further ruled off by red lines. There are bles giving the conversion of millimetres into inches, metres t and yards Altogether, the tables are quite as useful as those conversion of pounds into kilogrammes, and possess much the vantages.

ES AND THE PRINCIPLES OF MANURING. By C M Aik- 592 pp., including index. London: William Blackwood ons, 1894 6s. 6d.

portion of this book which was published in the pamphlet form, iewed in these columns some time ago, promised well for what ollow; and the present work is a satisfactory fulfilment of the hich the pamphlet held out. The book is divided into three In the first part an historical review of the work which has been agricultural chemistry and the chemistry of manuring is given, as complete as the author's intimate acquaintance with agri- literature could make it, which is not saying a little. Part two is devoted to the principles of manuring, and is shaped upon much the same lines as the bulletins issued by the agricultural stations of the United States. Better models, however, it would, perhaps, have been hard to find. The chief points dealt with are the fertility of the soil; the functions performed by manures; and the position of nitrogen, phosphoric acid, and potash in agriculture. All these items are dealt with in a simple and systematic fashion In the same part there is an able chapter on nitrification, which is worthy of a careful perusal by all those interested in agriculture and the art of manuring. The first chapter of part three, which deals with farmyard manure, has already been reviewed by us. The other chapters of this part are, however, of much importance. Under the heading of guano, a timely word upon the adulteration of this article will be found, as well as a few remarks on the possibilities of fish guano. The next three chapters are devoted to the consideration of nitrate of soda, sulphate of ammonia, and bones as manures Mineral phosphates and superphosphates come next in order, bringing us to the latest phosphatic manure—basic slag. The chapter on this subject is very interesting, well written, and up to date. One of the most disappointing chapters in the book is that on Sewage as a Manure. The attitude taken up in regard to the value of sewage as a manure is, no doubt, just about correct. But with some of the remarks upon sewage precipitation, it is hard to reconcile some of the statements with the experiences of the past few years In fact, the chapter, in its one-sided aspect of the question, is at variance with the whole tone of the work, which is otherwise characteristically broad, and pleasingly thorough. Upon the remaining chapters of the book there is not much need for comment, as they are intrinsically as good as the rest of the work. They deal with Indirect Manures; Composts; The Application of Manures; The Manuring of Common Farm Crops; The Application and Mixing of Manures; The Valuation and Analysis of the same; and, lastly, The Rothamshead Experiments There is apparently some discrepancy between the action of salt in the soil, as described under the headings of Nitrification and Indirect Manures, but the book is otherwise very free from such defects.

It certainly accomplishes its object of being a concise but popular work, and is further, thorough, and quite modern in its views. It supplies a much-felt want, in a perfectly satisfactory manner, all the more technical portions being kept together in the shape of appendices; and can, without doubt, be recommended as one of the best English works upon the principles of manuring extant.

ODOROGRAPHIA: SECOND SERIES. By J. C. Sawyer. 523 pp. Index and Corrigenda, 23 Illustrations. London: Gurney and Jackson, 1894.

The author in this work has embodied his proposal to extend the description of odour-bearing plants, made in the preface to his first volume (*C. T. J.* 282, p. 242). The greater part of the work is devoted to a concise description of certain spices, and products, used as flavouring materials Among the more interesting chapters may be cited those on nutmegs and mace, oil of bay, ginger, anise, mint and thyme.

The chapter on Eucalyptus contains a lot of useful facts culled from many sources In fact, the information all through the book has been carefully compiled from a great variety of sources, as many as 240 works of reference in different languages, which have been consulted, being classified at the commencement of the book. Oil of wintergreen also receives a good deal of attention, and forms the subject of a very readable chapter. In the second section of the work, which is divided into five sections, the products of fermentation and heat are described. This section, in conjunction with the next one, contains the most important contributions to odorographia that the work contains, as each deals respectively with ferment oils and empyreumatic oils, two classes of oils which have up to now received too little attention. Section four is virtually an *agenda* to the first volume or series as it is called, giving more recent details about many substances used for the purposes of perfumery, such as musk and its substitutes, rosemary, lavender, and pine-needle oil, and bergamot. It is interesting to note in connection with the latter that according to the statement of those who should be able to speak with confidence, it is probable that an entirely unmixed bergamot oil is never seen in commerce. The fifth and last section gives a list of plants yielding purely floral perfumes, and a description of the same; being likewise a continuation of the information given in the first series.

Altogether, this second series may be said to make a fitting conclusion to the earlier part of the work, in a two-fold sense; in that it contains valuable information on new matters, in addition to supplementary details, bearing upon subjects previously touched upon somewhat sparsely in the first series. Portions of the work are, furthermore, unique, and of great interest and utility.

THE HIGHLAND AND AGRICULTURAL SOCIETY.—At the last meeting of the directors of the Highland and Agricultural Society, held in Edinburgh, it was resolved to hold the show for 1896 at Perth. The show for next year will take place at Dumfries.

Trade Notes.

Obituary.—We regret to have to record the death of Mr. Richard T. Griffin, of the well-known firm of publishers of technical literature. ncluding so many of the most highly-appreciated engineering and chemical books. Mr. Griffin was only forty-seven years of age.

Personal.—We learn that Mr. A. B. Blackburn (late with Messrs. Mather and Platt, Salford, Manchester), has been appointed chief engineer to the Electric Construction Company of London and Wolverhampton.

Society of Chemical Industry: *London Section.*—An extra meeting of this section will be held on Monday next at Burlington House at 8 p m., when Mr. H. E. de Mosenthal will read a paper on "The Treatment of Gold Ore in the Transvaal Gold Fields," which will be illustrated with lantern views, specimens, and diagrams. A note will also be read by Mr. F. Platten on "A modification of the ferric chloride distillation process, for the estimation of arsenic in copper."

A Well Merited Fine.—Richard Chambers, of Pembroke-street, Leeds, appeared before the Stipendiary Magistrate at the Town Hall, last week, on the charge of improperly consuming gas belonging to the Corporation, reference to which case has previously been made in the *Journal*. The outlet-pipe of the meter and the service-pipe had been connected by a piece of india-rubber tubing, and the gas was consumed in a cooking-stove. The Magistrate imposed a penalty of £3., with an additional penalty of £1., including costs.

The Birmingham Sewage Farm.—Birmingham is particularly unfortunately placed as regards this method of treating sewage, for, owing to the large quantities of acids carried into the sewage from its numerous factories, £3,000 a year has to be spent on lime alone to neutralise them, or all vegetation would be impossible. Great expense was involved in the initial laying down of the works owing to the want of a sufficient fall for the sewage on the farm, and the purchase of the land necessitated a very heavy outlay. Although under excellent management, the annual loss is about £30,000.

Fatalities at a Paper Works.—Two of the workmen employed at Messrs. Olive and Partington's paper works, at Dover Mills, Glossop, have died in a sudden manner, and it is surmised that their deaths are due to arsenic poisoning. Two men—Thomas Fox, 59 years of age, of Wood-street, Glossop, and Henry Battersby, of Duke-street—were employed in the chemical department, and whilst engaged, about a week ago, in mixing chemicals used in the manufacture of tinfoil paper, were taken suddenly ill, and two other workmen were similarly affected a few days afterwards. This kind of paper has been manufactured at the works for the past 30 years, and this is the first time such a sad event has taken place. It appears a large quantity of hydrochloric acid is used in the manufacture of the foil paper, and upon the acid being analysed, it was found to contain a large amount of arsenic, and it is supposed the men have inhaled the fumes. The coroner's inquiry was opened on Friday last week, and there were present Mr. Ashworth, factory inspector; Mr. Lake, chemist; Mr. Allen, manager. The works where the fatality occurred were visited, and the process explained by Mr. Allen. Samples of the acid, which contained large quantities of arsenic, were submitted, and also a fresh delivery of the same material, which only contained a trace of the poison. Evidence of identification having been given, the inquest was adjourned, in order that the doctors who have made the post-mortem examination may complete their inquiries.

Market Reports.

TAR AND AMMONIA PRODUCTS.

Tar products all round seem rather quiet, with the exception of benzol and carbolic acid crystals. Benzol, 90's, is just about the same, but 50/90's is inclined to be dearer, quotations being 1s. 4½d. to 1s. 5d. Both crude and solvent naphtha are easier in price, 30% crude standing at 6d., and 90% solvent at 1s. 2d. Crude carbolic acid, 60%, is also easier by a penny at 1s. 7d.; crystals, 40%, however, remain as last quoted. Pitch is unalterd at 27s. 6d., f.o.b. East coast. In anthracene, 30% A still stands at 1s. 1d., and B at 10d.

Sulphate of ammonia is decidedly weaker, and there is very little consumptive demand. Prices for prompt delivery are: Beckton £13. 15s., London outside makes £13. 13s. 9d., Liverpool £13. 10s., Hull £13. 10s. to £13. 11s. 3d., and Leith £13. 12s. 6d. Forward business could probably be effected at much the same values. Nitrate of sodium is scarce and firm.

MISCELLANEOUS CHEMICAL MARKET.

Business in the alkalies generally is quiet, both for home and export trade. Current values are without change. Ammonia alkali, 58%, £3. 2s. 6d., bags, makers' works, for spot delivery. There has been a large reduction in the output of this article, and higher prices would have to be paid for forward deliveries. Leblanc ash is in limited request at 1d. per degree (casks), f.o.b. Soda crystals dull, and price unchanged. For caustic soda, current quotations (subject to usual variations) are as follows:- f.o.b. Tyne, 77%, £10. 7s. 6d.; f.o.b. Liverpool, 74%, £10. 2s. 6d.; 70%, £9. 2s. 6d.; 60%, £8. 2s. 6d.; cream, 60%, £7. 17s. 6d. per ton, in 10-ton lots and upwards. Bleaching powder still in good demand, and price unaltered at £7. 10s. nett, makers' works, and £8. f.o.b. For chlorate of potash 7¼d. per lb., soda 8¼d., are present quotations for spot delivery. Recovered sulphur £3. 17s. 6d. to £4., f.o.r. In sulphate of copper active business continues to be done, and price is firm at £15. 10s. to £15. 15s., f.o.b., according to brand. Acetates, and acetic acid, in all varieties are extremely quiet. White sugar of lead has a slightly lower tendency. White powdered arsenic very scarce, and price dearer at £14. 5s. to £14. 10s. nett, f.o.r. Garston, etc. For potash, caustic and carbonate, the demand is still strong, and prices are very firm, without any quotable change. Prussiate of potash 10½d. to 10¾d., according to quantity. Borax very flat. Sulphocyanides firm in price, but only little business doing. Tin and zinc salts quieter, and the trade in all chemicals used in textile manufactures is extremely dull.

REPORT ON MANURE MATERIAL.

Throughout the week there has been a fair business doing for prompt and early delivery, but not much for forward delivery. The position of mineral phosphates remain as last reported, and quotations are unchanged. There is inquiry for bones for summer-autumn shipment, but prices asked are rather above buyers' idea of value. £4. 15s. would have to be paid for handy cargoes of River Plate. Bombay bone meal is selling on spot in retail at £5. 6s. 3d. per ton, ex quay, but £5. 5s. would be accepted for quantity, and £5. is probably nearest value of March steamer shipment. No crushed bones offering. The excitement in the nitrate of soda market continues, and spot value is 10s. 7½d. per cwt, ex quay Liverpool or f.o.r. Garston. Arrived cargoes are worth quite 10s. 6d. per cwt., but less would have to be taken for anything due but not actually arrived. There is nothing to report in miscellaneous manure material.

THE METAL MARKET.

London, Wednesday.—Pig iron, dull: Scotch warrants closed at 42s. 11d., Middlesbrough 36s. 2½d. cash, and hematite 45s. 1d. Copper, dull: Chili bars, G.O.B.'s and G.M.B.'s, closed at £40. 11s. 3d. to £40. 16s. 3d. cash, and £41. 3s. 9d. to £41. 8s. 9d. three months. Tin, quiet: Straits closed at £69. 15s. to £70. 5s. cash, and £70. 15s. to £71. 5s. three months; Australian, £70. 5s.; English ingots, £75. to £75. 10s. Lead, firm: Spanish, £9. 5s. to £9. 6s. 3d.; English, £9. 7s. 6d. to £9. 10s. Silesian Spelter, ordinary, £15. 17s. 6d. Nickel, 1s. 8½d. Antimony, £35. Quicksilver: second hands, £5. 8s. 6d. *Copper shares*, easier: Cape, 1⅜ to 1½; Copiapo, 1¾ to 1⅞; Libiola, 3 to 3¼; Mason and Barry, 2 7/16 to 2 8/16; Rio Tinto, 15⅜ to 15½; Tharsis, 4⅞ to 5⅛.

LIVERPOOL OIL AND COLOUR MARKET.

Wednesday.

Oils.—Palm oil is steadier. Lagos has been sold at £20. 5s., but is now fetching better prices. Other qualities are also improved. Olive keeps steady at £30. to £37. per tun, but there is not much business doing. Linseed is firmer, and is now held by sellers at 21s. to 21s. 6d. per cwt. for Liverpool makes in export casks. The scarcity of cottonseed has resulted in prices being advanced 3d., and Liverpool refined is to-day quoted 20s. 9d. to 21s. 6d. per cwt., according to quality. Castor oil is rather dull, save for immediate deliveries of good seconds Calcutta, which is quoted 2⅜d. Sales of first pressure French are being made ex quay at 2 5/16d. per lb. Tallow was exceptionally dull in the early part of the week, but is to-day rather steadier. Prices, however, are unchanged. Resin is steady in all grades, a fair business being done at 3s. 9d. per cwt. for common, 4s. 4½d. to 6s. for medium, and 7s. to 9s. 6d. for fine quality. Spirits of turpentine are firmer, and though 23s. has been obtained during the week on spot, to-day's quotation is 22s. 9d. per cwt. for the same position. Petroleum is moving fairly well at 4¼d. to 5½d. for American, according to quality, and 3⅝d. to 3¾d. per gallon for Russian refined.

DURS are steady without alteration in prices. Oxfordshire, common, £10., medium, £12., best, £15.; ire, common, 40s.; medium, 50s., best, 60s.; Welsh, best, conds, 50s., and common, 18s.; Irish, Devonshire, 40s. to rench, J.C., 55s. to 60s.; M.C., 65s. to 67s. 6d. Umber: quiet; Devonshire, 50s. to 55s. White lead, and oxide unchanged. Venetian red, £6. 10s. to £10. Cobalt: d oxide, 9s. 9d.; black, 9s.; blue, 6s. Zaffres: No. 1, No. 2, 2s. 6d. Oxide of iron: Common, £6.; medium, inest, £20. Zinc oxide, £23. to £25.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, TUESDAY.

rincipal, almost the only, feature of mark in the northern is the very palpably increased weakness of sulphate of a, which has somewhat suddenly become lifeless to a degree. transactions at home have all but ceased for the moment, and rward business there has been stands at low prices (compara- towards the close of the week £13. 12s. 6d having been taken. stated amongst operators here, and believed, that Scotch has been offered on the London market, prompt, at the same £13. 12s. 6d.

icals generally continue rather depressed, with the tendency to although there are but few positive drops reported. Chlorate h is easier. Spring shipments of heavy chemicals have com- but very half-heartedly, and as yet no great bulk has been put nove. The inquiry for quotations has also become less active.

section of mineral oils and paraffins there is increased quiet- pecially in the demand for early consumption; but makers ty busy getting into stocks against next season, after the late n.

prices current are:—Soda crystals £2. to £2. 2s. 6d. nett, Tyne; 48/52° £3. 12s. 6d. to £3. 16s. 3d. nett, Tyne; white alkali 4. 10s to £5. 5s. nett, Tyne; alum in lump £5. 10s. nett, Glasgow; oda, white, 74° £10. 5s., 70/72° £9. 2s. 6d., 60/62° £8. 2s. 6d., m 60/62° £7. 17s. 6d., all nett, Liverpool; bleaching powder to £7. 10s., nett, Tyne; saltcake, 17s. 6d.; borax, English £30. and boracic acid, £37. 10s. nett, Glasgow; bicarbonate of cwt. casks, £6. 10s., and 1 cwt. casks £6. 15s. nett, Liverpool; ate of potash, 4½d. nett, for Scotch and English deliveries (for 4¼d. nett, f.o.b. Glasgow); bichromate of soda, 3¾d. nett, for nd English deliveries (for export, 3½d. nett, f.o.b. Glasgow); of potash, 7¼d. less 5%, Liverpool; nitrate of soda, 10s. 6d.; of ammonia forward, £13. 12s. 6d. nett, f.o.b. Leith; oniac, first and second white, £39. and £37. nett, any port; of copper, £15. 10s., less 5% Liverpool; paraffin scale, hard 1⅞d. l. to 2d. per lb.; paraffin wax 120° semi-refined 2⅜d. to 2½d.; spirit (naphtha), 3½d. to 4d. per gallon; paraffin oil (burning), No. 1 grade, 5d. at works, for Scotch buyers (English sales, ¾d. lower); ditto (lubricating) 865° £3. 12s. 6d. to £3. 17s. 5° £4. to £5., and 890/895° £5. to £6. Week's imports of ar at Greenock were 5,600 bags.

TYNE CHEMICAL REPORT.

TUESDAY.

icals are in rather better demand for prompt and forward, and ts are being made more freely. Soda crystals locally are 6d. per ton, gross weight. Bleach, £7. 10s. per ton. 76/77% £10. 15s. per ton; 70%, £9. per ton. Sulphur weaker, 6d. per ton now being quoted.

hing Powder, softs, £7. 10s. per ton, nett; hards, £7. 15s. per ton, austic soda, 76/77%, £10. 15s. per ton, nett; do., 70%, £9. nett; recovered sulphur, 2 cwt. bags, £3. 17s. 6d. per ton, nett; h, 48%, £3. 12s. 6d. per ton, nett; do., 52%, £3. 16s. 3d. nett; do., 56%, £4. per ton, nett; alkali, 36%, £2. 15s. nett; white alkali, 48%, £4. 10s. per ton, nett; do., 50%, £4. ton, nett; do., 52%, £5. 5s. per ton, nett; hyposulphite of 7 cwt. casks, £5. per ton, nett; do., 1 cwt. kegs, £5. 10s. nett; silicate of soda, 75° Tw., £2. 17s. 6d. per ton, nett; 0° Tw., £3. 12s. 6d per ton, nett; do., 140° Tw., £4. , nett; soda crystals, casks, £2. 2s. 6d. per ton, weight; do., 2 cwt. bags, £2. 2s. 6d. per ton, nett; of potash, 7½d. per lb., less 6%; pearl hardening, r ton, nett; pure white sulphate of alumina, £4. 2s. 6d. nett; blanc fixe, £7. 10s. per ton, nett; chloride of barium, per ton, nett; carbonate of alumina, £28. 15s. per ton, luminate of soda, £33. 15s. per ton, nett; in 5 ton lots, £28. ton, nett.

Durham Salt is steadier and scarce, and price now quoted is ton, f.o.b. Tees.

Coals are somewhat firmer to-day, and as far as "steam" are concerned the demand is larger. Some of the best collieries are now again working full time, owing to increased orders. To-day's prices are as under: Best Northumbrian steam, 10s. to 10s. 3d. per ton; best small steam, 4s. 9d. to 5s. per ton; gas coals easy, 7s 6d. per ton; bunker coals vary according to quality, 6s. 9d. up to 10s. for best Durham screened; coke firmer, 13s. to 14s. 6d. per ton.

HULL PAINT, OIL, AND COLOUR REPORT.

TUESDAY.

OILS.—With one or two exceptions trade continues fairly satisfactory here. The following is a return of the tonnage upon which dock dues have been paid to the North-Eastern Railway Company's docks during the year 1894:—575,055 tons, against 1893, 511,516 tons. There have been no imports of linseed during the week, consequently linseed oil rules firmer, and is dearer by 5s. per ton, closing firm at 18s. 10½d. naked spot, month. or May-August; September-December, 18s. to 18s. 3d; casks 17s 6d., and ordinary barrels 22s. 6d. per ton extra; boiled and refined ditto from £1. to £2. per ton extra. During the week 6,651 tons of cottonseed have arrived from Alexandria, and 600 tons from Smyrna. Cottonseed oil, refined, is also rather firmer, and is quoted at 18s. 7½d. naked spot or month; May-August, 18s. 10½d. buyers. Export of refined for the week, 7,100 cwts. Rapeseed oil continues cheap without alteration in price, best brands of refined being in good demand. Turpentine, 23s. Castor oil, from 2¼d. per lb. Olive oil unchanged. Cod oil from £17. to £19. per ton. Herring oil, £15. per ton. Sod oil for tanners, curriers, etc., from £16. Pale seal oil, £20. Brown wool grease, £8. per ton. Engine and cylinder oils from 1s. to 2s. per gallon. Paraffin Molle, 20s. per cwt.

CAKES.—Linseed cakes very quiet, but spot being scarce and very firm prices remain unchanged: 95 per cent. pure, £8. to £8. 10s.; Russian, £7. 10s. to £7. 15s.; Polish, £7. 15s. Oil cakes, £6. 15s. to £6. 17s. 6d. Cotton cakes: A firm market; best makes, £4. 10s. to £4. 12s. 6d.; seconds, £4. 7s. 6d. Rape cakes: East India, £4. 10s.; Black Sea, £3. 15s. Round feed and oil cakes, £6. 12s. 6d.

PAINTS are unchanged: White lead in oil, £17. 10s. per ton; oxide of zinc, £22. per ton; red lead, dry, £13. 10s per ton; Venetian red, dry, from £6. to £10. per ton; oxide of iron, dry, from £9. to £18.; J.C. ochre 55s. to 60s. per ton, Derbyshire ochre from 65s. per ton, Cumberland ochre from 75s. per ton; lime blue, 16s. per cwt.; common black tar varnish, £5. 10s. per ton, in barrels; oak varnish from 5s. 6d. per gallon.

New Companies.

The Metropolitan Cold-Air Storage Company, Limited. CAPITAL £30,000., in shares of £10. each. This company has been formed to carry on the business of cold-air stores, wharfingers, etc.

The Mersey Rubber Company, Limited. CAPITAL £60,000, in shares of £10. each. This company has been formed to acquire the works standing at Bank Quay, on the Mersey, near Warrington, and to manufacture rubber goods of all kinds.

Bracker Patents Manufacturing Company, Limited. CAPITAL £3,000., in shares of £1. each. This company has been formed to trade as engineers and machinists, and to acquire the goodwill and business of P. H. Bracker, Wincanton, Somerset.

London Stoneware Pipe Company, Limited. CAPITAL £2,000., in shares of £1. each. This company has been formed to carry on the business of dealers in, and manufacturers of cement, lime, plaster of Paris, whiting, &c., and to manufacture bricks and artificial stone.

Hartridge's Smokeless Fuel Company, Limited. CAPITAL £25,000., in shares of £1. This company has been formed to purchase patent rights and to manufacture under the same patent smokeless fuel. The subscribers to the Memorandum of Association are—L. de Foublanque, 5, Pitt-street, Kensington, W., secretary, 100 shares; C. Jones, 6, St. John's Park, S.E., 500; H. W. Hart, 27, Store-street Bedford-square, W.C., publishers' agent, 500; J. Moeller, 2, Queen's Park Gardens, S.W., manager, 1,000; W. B. Hartridge, 6, Sainfoin-road, S.W., lithographer, 1; A. McDonnell, The Cedars, Southall, civil engineer, 500; C. J. Lambert, 42, Breakspear's-road, S.E, 500.

The Marland Dyeing Company, Limited. CAPITAL £10,000., shares of £5. each. This company has been formed to trade as dyer and bleachers, and to purchase the works of Messrs. Smith and Sons, Limited, Marland Works, Heywood, near Manchester. The subscribers to the Memorandum of Association are:—A. B. Scholfield, 29, Brown-street, Manchester, insurance broker, 1 share; W. Lees, 8, Upper Chorlton-road, Manchester, salesman, 1; J. Fowles, 13 and 15, Hernly-street, Heywood, plumber, 1; G. H Smith, 18, St. James'-terrace, Heywood, yarn agent, 1; H. Wild, Netherton, Heywood, cotton spinner, 1; F. J. Smith, Bailey Hall, Heywood, dyer, 1; T. H. Scholfield, 20, Kennedy-street, Manchester, solicitor, 1.

The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of George E. Davis and Alfred R. Davis, who report professionally upon the value of Chemical Patents.

APPLICATIONS FOR ENGLISH LETTERS PATENT.

Process and Apparatus for the Manufacture of Water-Oil Gas. H. Fourness. 6,152. March 27.

Utilization of Sewage. M. F. Purcell. 6,159. March 27.

Improvements in Grinding or Pulverizing Machines. S. H. Stephens, 6,173. March 27.

Improved Automatical Hydro-Extractor. J. E Tolson, and G. Tolson. 6,176. March 27.

Apparatus for Burning Liquid Fuel. J. J. D. Cleminson. 6,194. March 27

New Azo Colouring Matters. B. Willcox. 6,197. March 27.

Guard for Incandescent Burner Mantles. W. Duncan. 6,233. March 28.

Picric Acid as an Insecticide Antiseptic and Disinfectant. G C. Kinloch. 6,243. March 28.

Treatment of Sewage Discharged into the Sea. H. S. Chapman. 6,318. March 29.

Improvements in Fuel Economisers. T. Sykes. 6,388. March 30.

Improvements in Refrigerating Apparatus. J. J. Musto. 6,401. M

Method and Apparatus for Manufacturing Caustic Soda. T. 6,426. March 30.

Smoke Washing Apparatus. E. Wardle, and J. H. Evers. 6,431. M

Treating Sewage and Other Liquid Organic Refuse so as to and Fix the Ammonia. C. R. Illingworth, and D. Arthur. March 31.

Protecting Iron Pipes from Corrosion by Electrolysed Solutions. E. Hermite, E. J Pateson, and C. F. Cooper. 6,495. M

Apparatus for Electrolysing Chloride Solutions for Disinfecti Hermite, E. J. Pateson, and C. F. Cooper. 6,497. March 31.

Gazette Notices.

PARTNERSHIPS DISSOLVED.

T. Dodds and G. King, oil merchants and drysalters, Shoreditch, E., u style of Callett Dodd and Co.

BANKRUPTCY ACTS, 1883 and 1890.

Receiving Order.

Groves, Leonard, Mark Lane, E.C., chemical agent.

Adjudications.

Smith, Frederick William, Sutherland-place, Bayswater, W., late Eust N.W.; Sevenoaks; Sutherland-avenue, Maida Vale, W.; and East professor of chemistry.

Corbett, Edward, Junr., Plaskynaston Chemical Works, near Ruabon.

IMPORTS OF CHEMICAL PRODUCTS

AT

THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending March 31st.

Acetic Acid—

Holland,	190 pkgs.	A. & M Zimmermann
,,	55	J. Owen
,,	15	Beresford & Co.

Acetone—

Holland,	4 pkgs.	A. & M. Zimmermann

Alkali—

Germany,	7 pkgs.	L. & I. D. Jt. Co.

Alum—

Belgium,	24 pkgs.	R. W. Greeff & Co.
,,	24	H. Wallace & Co.

Aluminium—

Belgium,	5 c.	Major & Field

Ammonium Chloride—

Holland,	19 pkgs.	H. Lorenz

Anthracene—

Holland,	184 pkgs.	Burt, Boulton & Co.
,,	184	Little & Johnston
France,	136	Burt, Boulton & Co.

Antimony Ore—

A. Turkey,	50 t.	French & Smith
Melbourne,	1	Vivian, Younger & Co.

Asbestos—

Belgium,	£75	J. Coppo & Co.
Italy,	142	Mory & Co.
France,	11	,,
Italy,	700	Brit. Asbestos Co.

Barium Chloride—

Germany,	5 pkgs.	Petri Brs.

Barytes—

Germany,	23 cks.	W. Harrison & Co.
Holland,	44	,,
,,	2	S. Ward & Co.
,,	115	Magee, Taylor & Co.
,,	23	O'Hara & Hoar
,,	23	T & H. Willoughby
,,	20	Colthurst & Harding
Belgium,	58	W. Pope & Co.
,,	22	W. Harrison & Co.
,,	56	24 brls. J. L. Lyon & Co.
Germany,	60 bgs.	H. Lambert

Boracic Acid—

Germany,	12 pkgs.	F. Boehm
Italy,	40	J. Puddy & Co.

Camphor—

Japan,	68 tbs.	Lewis & Peat
,,	68	T. Merry & Son
Hong Kong,	100 cs.	E. Barber & Son
,,	110	R. Warner & Co., Ltd.

Caoutchouc—

France,	46 c.	H. Johnson & Sons
,,	128	W. Balchin
,,	6	Prop. Bull Wf.
U. States,	24	,,
,,	15	Stiebel Bros.
,,	50	L. & I. D. Jt Co.
Zanzibar,	38	Clarke & Smith
Cape,	29	Major & Field
E. Indies,	26	Ralli Brs.
P. E. Africa,	6	W. M. Smith & Sons
,,	6	Prop Bull Wf.
E. Indies,	210	Huttenbach & Co.

Carbonic Acid Gas—

Holland,	193 pkgs.	F. J Putz & Co.

Castor Oil—

E. Indies,	43 cks.	Ross & Deering
,,	100 cs.	Anderson, Weber & Co.
,,	228 cks.	Cayzer, Irvine & Co.
,,	10 cs.	W. Balchin
Italy,	10	Beresford & Co.
,,	10	B. & N. Whys Co., Ltd
,,	5	Knight & Morris
,,	60	Herisson & Co.
Belgium,	30 brls.	Burrell & Co.
France,	22	Beresford & Co.
Germany,	20 cs.	F. Boehm

Caustic Potash—

Germany,	2 c.	W. J. Crook
France,	50	F. J. Putz & Co.

Chemicals *(otherwise undescribed)*

Holland,	4 pkgs.	L. C & D. Rly. Co.
,,	1	Spies Brs. & Co
,,	£10	T. Palmer
Belgium,	15	Beresford & Co.
B. W. I.,	10	Gillespie Bros. & Co.
France,	20 pkgs.	Leach & Co.
,,	120	W. Smith
,,	120	T. H. Lee
Germany,	46	,,
,,	8	Phillipps & Graves
,,	50	A. & M Zimmermann
,,	£6	W. Burton & Sons
,,	12	Domeier & Co.

Cream of Tartar—

Spain,	2 pkgs.	Evans, Lescher & Co.
,,	12	B. & F. Wf. Co.
France,	4	2 cks. ,,
,,	2	F. C. Devon & Co.
,,	10	M. Ashby, Ltd.
Italy,	25	B. Jacob & Sons

Dextrine—

Germany,	100 pkgs.	H. Lorenz
France,	20	J. W. Drysdale & Co.
Germany,	65	Pronk, Davis & Co.

Dyestuffs—

Annatto

Ceylon,	8 pkgs.	Hoare, Wilson & Co.

Argols

France,	5 pkgs.	Williams, Torrey & Co.
Spain,	700	Phillipps & Graves
Cape,	8	J. R. Thomson & Co.
Italy,	29	Thames S. T. & L. Co., Ltd.

Cochineal

Canaries,	21 pkgs.	Marshall & French
,,	14	Johnson, Hicks & Co

Cutch

E. Indies,	751 pkgs.	R. G. Hall & Co.
Germany,	200	H. A. Litchfield & Co.

Extracts

France,	17 pkgs.	J. Browne & Son
,,	61	Prop. Chmbln 's Wf.
,,	40	T. H. Lee
,,	90	B. & F. Wf. Co.
Denmark,	1 ck.	M. D. Co.
U. States,	10 pkgs.	G. T. Benton & Son
,,	50	Beresford & Co.
Germany,	4 cs.	T. H. Lee
France,	56	Carey & Sons
U. States,	50	W. Burton & Sons
Belgium,	105	T. H. Lee
,,	1	Hurford & Middleton

Gambier

E. Indies,	1,840 pkgs.	Brinkmann & Co.
,,	252	R. & J. Henderson
,,	465	L. & I. D. Jt. Co

Indigo

E. Indies,	37 chts.	Croysdale & Co
,,	180	R. von Glehn & Sons
,,	104	Eales & Rutherford
,,	444	L. & I D. Jt. Co.
,,	23	W. Brandts, Son & Co.
,,	101	Park, Macfadyen & Co.
,,	168	Stansbury & Co.
,,	6	F. W. Heilgers & Co.
,,	49	Ripley, Roberts & Co.
,,	11	A. Frey & Co., Ltd.
,,	20	H. J. Perlbach & Co.
,,	36	Elkan & Co.
,,	11	F. Huth & Co.
,,	185	Arbuthnot, Latham & Co
,,	18	G. Steinthal & Co.
,,	15	W. Isted
,,	20	Montgomerie & Co.
,,	4	Bieber & Co.
,,	29	Darling Brs.
,,	30	Phillipps & Graves
,,	5	Parsons & Keith
,,	34	Patry & Pasteur
Germany,	1 ck.	H. Lambert

Logwood

Belize,	35 t.	W. Shelcott

Myrabolams

E. Indies,	683 pkgs.	Cayzer, Irvine & Co.
,,	2,000	W. S
,,	1,500	A

Safflower

E. Indies,	4 pkgs.	Ripley,

Shumac

Italy,	50 pkgs.	Beresfor
,,	200	Sollas
,,	50	T. & L.

Tanner's Bark

Belgium,	30 t.	Leach
Austria,	1	M.
Adelaide,	98	Baxter &
,,	2	Flack, Chandler
Natal,	6	A. & W.
,,	6	Anning
Cape,	24	Boutcher, Mo

Turmeric

E. Indies,	148 pkgs.	Wrightson
,,	100	Hoare, Wilso
,,	54	Prop.

Valonia

A. Turkey,	50 t.	Boutcher, Mo
,,	33	H.
,,	135	A. & W.
,,	26	Hicks, Nash

Farina—

Germany,	100 pkgs.	Prop. Sco
,,	10	Craver

French Chalk—

Italy,	£150	W. Harrison

Glucose—

Germany,	4 pkgs.	18 c.	T.
,,	13	104	M.
,,	25	200	Pillow
,,	25	200	Prop. Ch
France,	108	108	J. Barber
U. States,	452	2,486	Prop. Ch
,,	133	731	L. Sutro
,,	500	500	Barett,
,,	170	935	T. M.

Manure—

E. Indies,	350 t.	A. Hunte
N. Russia,	10	Hoyermann's
Germany,	100	F. W. Berk & C
,,	180	Anglo-Cont.
France,	25	C. A. & H.
,,	25	J. Burnett
E. Indies,	200	J.
,,	100	F. J. Cornwe

Methyl Alcohol—
Belgium, 7 dms. Lister & Biggs
Germany, 10 cks. A. H. Wintergill
U. States, 12 brls. Elkan & Co.

Mica—
E. Indies, £1,815 W. M. Smith & Sons
Adelaide, 10 F. Braby & Co.
Ceylon, 25 Arbuthnot, Latham & Co.

Ochre—
France, 43 cks. W. Harrison & Co.
Holland, 2 pkgs. Phillipps & Graves

Paraffin Wax—
U. States, 1,649 brls. J. H. Usmar & Co.
" 265 G. H. Frank

Phosphate Rock—
Belgium, 120 t. Leach & Co.
" 25 H. & E. Albert
" 50 Lawes Manure Co.
France, 126 Anglo-Cont. Guano Wks.
U. States, 2,000 "
Germany, 208 Lond. Phos. Syn., Ld.

Pitch—
France, 35 cks. Union Whvs Co.
" 5 brls. Poth, Hille & Co.
" 200 cks. H. Hill & Sons

Plumbago—
Ceylon, 70 brls. Doulton & Co.
U. States, 60 bxs. S. Guiterman & Co.
Germany, 70 cs. T. H. Lee
Ceylon, 92 brls. Beresford & Co.
" 152 cks. R. G. Hall & Co.
" 200 J. Thredder, Son, & Co.
Cochin, 39 Parry & Co.
Ceylon, 193 brls. Prop. Sun Wf.
" 343 Lucas & Spencer's Wf.

Potash—
France, 85 c. Petri Brs.

Potassium Carbonate—
France, 100 c. E. W. Carling & Co.

Potassium Chloride—
Germany, 2,286 pkgs. Bessler, Waechter & Co.
" 508 pkgs. Anglo-Cont Guano Wks.

Potassium Cyanide—
Germany, 10 pkgs. Petri Bros.
Holland, 5 F. Boehm

Potassium Hydrate—
France, 10 pkgs. Spies Brs. & Co.

Potassium Sulphate—
Germany, 254 pkgs. Bessler, Waechter & Co.
France, 75 Mead, Son, & Co.

Rosin—
Holland, 6 brls. R. Baelz & Co.
" 6 Phillipps & Graves
France, 15 G. Ward & Sons
U. States, 4,260 H. Hill & Sons
Germany, 4 H. Lambert

Saltpetre—
Queensland, 22 bgs Prop. Sun. Wf.
E. Indies, 397 Co-op. Lthge. Assn.
" 1,928 Lucas & Spencer's Wf.
Germany, 110 cks. P. Hecker & Co.
" 300 bgs. Co-op Lthge. Assn., Ld.
E. Indies, 2,003 Ralli Bros.

Soda—
Holland, 12 pkgs. Sydow, Gerson & Co.

Starch—
Holland, 1,960 pkgs. Little & Johnston
" 310 —
" 390 A Starck
" 115 Phillipps & Graves
" 253 Taylor Bros.
" 253 Magee, Taylor & Co
Belgium, 79 F. Claydon & Co.
" 50 F. Rosenthal & Co.
" 26 Leach & Co.
Germany, 1,310 Horne & Co
U. States, 300 L. Sutro & Co.

Stearine—
Belgium, 14 cks 81 bgs. H. Hill & Sons
France, 318 bgs. Beresford & Co.

Sulphur—
Italy, 3 t. McDougall & Co.
" 200 W. C. Bacon & Co.
Repub. Columbia, 100 t. A. Hunter & Co.

Talc—
E. Indies, £9 Un. Ligtge. Co., Ltd.

Tallow and Stearine—
U. States, 11 cks. Wright & Layman

Tartaric Acid—
Holland, 20 pkgs. Kirkpatrick & Co.
" 5 B. & F. Wf. Co.

Turpentine—
N. Russia, 26 brls. Dussek Bros. & Co.

Ultramarine—
Germany, 24 cks. T. Hamilton
" 24 McDougall & Bonthron
Belgium, 16 brls. W. Harrison & Co.

White Lead—
Holland, 40 cks. A. & M. Zimmermann
" 11 Petri Bros
France, 45 W. Harrison & Co.
Germany, 42 M Ashby, Ld.
Belgium, 7 W. A. Rose & Co.
" 2 Leach & Co.
" 130 brls. J. L. Lyon & Co.

Wood Pulp—
Portugal, 300 pkgs. E. J. & W. Goldsmith
Norway, 540 "
Germany, 1,536 "
" 145 H. Lambert
" 54 W. Friedlander
Holland, 148 G. Rahn & Co
" 976 Moreton Cox Brs.
Norway, 406 W. G. Taylor & Co.
" 6,400 Christophersen & Co.
" 456 Tough & Henderson
Sweden, 34 "

Zinc Oxide—
Germany, 50 brls. M. Ashby, Ltd.
Holland, 75 "
U. States, 100 "
" 12 Forster & Gregory
Germany, 24 cks. J. Matton
Holland, 12 12 Smith, Sundius, & Co.

Zinc White—
Holland, 20 cks. Stobbs, Wilson, & Co.

LIVERPOOL.

Week ending March 29th.

Acetic Acid—
Rotterdam, 11 cbys.

Aluminium—
Antwerp, 7 cs.

Barytes—
Antwerp 55 cks.
Hamburg, 4

Bone Meal—
Bombay, 5,601 bgs.

Boracic Acid—
Leghorn, 69 cks.

Caoutchouc—
Havre, 5 pkgs. Cunard S S. Co., Ld.

Castor Oil—
Leghorn, 10 cs.
Marseilles, 199 cks. Henderson Brs.
" 223
" 17 J. J. Mack & Son

Copper Sulphate—
Baltimore, 236 brls.

Dyestuffs—
Annatto
Bordeaux, 2 cks. R. J. Francis & Co,
Argols
Leghorn, 1 ck.
Bordeaux, 34 cks.
Extracts
Colon, 99 cs. Benito, Novella, & Co
Baltimore, 20 brls. Farnworth & Jardine
Antwerp, 30 cks.
Boston, 25 brls.
Fustic
Colon, 765 ps. Widow Duranty & Son
Tampico, 2,480 Moffat Brs
Myrabolams
Bombay, 2,007 bgs. D. Sassoon & Co.
" 620 E D. Sassoon & Co.
" 350
Shumac
Palermo, 1,675 bgs.
" 300 T. Rooke, Sons, & Co.
" 100 J. Kitchen, Ld.
Turmeric
Bombay, 110 bgs. W. & R. Graham & Co.
Valonia
Syra, 245 bgs. C. Nicolaides

Flux Skimmings—
Rotterdam, 10 cks.

Glucose—
New York, 350 brls.
Philadelphia, 50

Lime—
Antwerp, 2 cks.

Limestone—
Antwerp, 3 cs J. T. Fletcher & Co.

Manganese Ore—
Poti, 1,750 t. Caucasian Trading Corporation

Mineral White—
Trieste, 100 bgs. E. A. Tanta

Ochre—
Leghorn, 8 cks.
Rouen, 40 Co-op. W'sale Society, Ld.
Marseilles, 31
Bordeaux, 21

Paraffin Scale—
Philadelphia, 200 brls.

Phosphate—
St. Valery, 431 t. Phosphate Guano Co.
Dunkirk, 210

Pitch—
Antwerp, 15 tins.

Plumbago—
Genoa, 40 cks 20 bgs.

Potash—
Antwerp, 12 dms. J. T. Fletcher & Co.
Portland, Me., 30 brls.

Pumice Stone—
Leghorn, 20 bgs. 43 brls
Messina, 60

Pyrites—
Huelva, 4,199 t. Matheson & Co.

Rosin—
Baltimore, 1,000 brls.

Saltpetre—
Hamburg, 54 brls. 4 cks

Soap—
New York, 500 brls.
Leghorn, 1,110 bxs. Weaver & Sterry
" 90 cs.
Naples, 139 P. Behrend
Norfolk, 340 brls
Bari, 129
Marseilles, 3 G. G. Mackay

Soapstone—
Genoa, 507 bgs.

Sodium Silicate—
Rotterdam, 3 cks.

Starch—
New York, 17 bxs. S. J. Ackroyd
Antwerp, 325 cs. J. T. Fletcher & Co.
" 180
New York, 50 bxs.
Rotterdam, 42

Stearine—
New York, 25 hds.
Antwerp, 48 bgs.

Sulphur—
Catania, 200 t. 50 cks. 150 bgs. 100 brls.

Tallow—
Zarate, 181 pps. J. Nelson & Sons

Tartar—
Messina, 2 cks.
Bordeaux 10 cs.

Tartaric Acid—
New York, 20 cks.
Rotterdam, 7

Tin Ashes—
Rotterdam, 1 cs.

Ultramarine—
Rotterdam, 12 cs. 2 cks.

Waste Salt—
Hamburg, 1,000 bgs.

White Lead—
Antwerp, 7 cks. 2 brls.
Rotterdam, 24

Wood Pulp—
Oporto, 250 bls. Carma Timber Co.

Zinc Oxide—
Antwerp, 90 brls.
Rotterdam 125 cks.

Zinc Skimmings—
New York, 126 brls. 4 hds. B. J. Young

Zinc White—
Rotterdam, 161 cks. O. & H. Marcus

MANCHESTER.

Week ending March 31st.

Acetic Acid –
Rotterdam, 38 cbys.

Alum—
Rotterdam, 31 cks.

Alumina Sulphate—
Rotterdam, 62 cks.

Ammonium Sulphate—
Rotterdam, 35 cks

Aniline—
Rotterdam, 7 cks.

Barytes—
Rotterdam, 22 cks.
Antwerp, 5

Bauxite—
Cette, 7.0 t. H. Spence & Son

Cadmium Nitrate—
Hamburg, 1 cs.

Carbonic Acid—
Rotterdam, 20 tbs.

Chemicals *(otherwise undescribed)*
Rotterdam, 3 brls.
Rouen, 72 cks.

Colours—
Rotterdam, 29 pkgs. 60 cks. 55 cs.
Treport, 5 1
Antwerp, 3

Dried Blood –
Antwerp, 20 cs.

Dyestuffs—
Alizarine
Rotterdam, 90 cks.
Extracts
Rotterdam, 37 cks.
Logwood
Old Harbour, 618 t.

Farina—
Rotterdam, 450 bgs.

Lead Acetate—
Rotterdam, 26 cks.

Limestone—
Antwerp, 1 ck.

Litharge—
Rotterdam, 3 cks.

Mineral White—
Bordeaux, 200 bgs. G.G Blackwell, Sons, & Co.

Minium—
Rotterdam, 5 cks.

Pitch—
Hamburg, 37 brls.

Potash—
Rotterdam, 5 cks. 4 brls.

Potassium Sulphate—
Rotterdam, 123 cks.

Saltpetre—
Hamburg, 30 brls.

Sodium Prussiate—
Antwerp, 14 brls.

Starch—
Rotterdam, 130 cs.
Antwerp, 160

Sulphuric Acid—
Rotterdam, 5 cs.

Tartar—
Hamburg, 1 ck.
Bordeaux, 2 J. & P. Hutchinson

Tartaric Acid—
Rotterdam, 10 kgs. 17 cks.

Ultramarine—
Rotterdam, 3 cks. 15 cs. 1 crt.

Waste Salt—
Hamburg, 508 bgs.

Wood Spirit—
Hamburg, 2 dms.

Zinc White—
Rotterdam, 1 ck.

HULL.

Week ending March 31st.

Antimony—
Hamburg, 6 cs. Wilson Sons, & Co., Ld.

Barytes—
Rotterdam, 63 bgs. J. Good & Sons
Antwerp, 60 88 cks. Bailey & Leetham

Binitro Toluol -
Rotterdam, 6 cks. W. & C. L. Ringrose

Camphor—
Hamburg, 5 brls. Wilson, Sons, & Co., Ld.

Chemicals (*otherwise undescribed*)
Bremen, 4 cs. Veltmann & Co.
Antwerp, 538 pks. Wilson, Sons, & Co., Ld.
Dunkirk, 19 ,,

Colours—
Amsterdam, 4 cks. W. & C. L. Ringrose
Ghent, 7
Antwerp, 6 1 cs.
Bremen, 1 Veltmann & Co.
Rotterdam, 1 brl. 5 6 Hutchinson & Son
,, 40 pks. 25 7 W. & C. L. Ringrose
Flushing, 7 14 7 Hutchinson & Son
Rotterdam, 8 1 Wilson, Sons, & Co., Ltd.

Cottonseed Oil—
Rotterdam, 1 brl. Hutchinson & Son

Dyestuffs—
Alizarine
Rotterdam, 5 pks. W. & C. L. Ringrose
,, 8 brls. Hutchinson & Son
Orchella
Hamburg, 32 bls. Bailey & Leetham
Sumac Extract
Hamburg, 27 brls. Wilson, Sons, & Co., Ld.
Valonia
Smyrna 332 t.

Farina—
Stettin, 900 bgs. Wilson, Sons, & Co., Ld.
Harlingen, 1,070
Ghent, 137 cs. ,,

Glucose—
New York, 100 brls.
Stettin, 20 cks. Wilson, Sons, & Co., Ld
,, 11,00 bgs.
Rotterdam, 50 Hutchinson & Son

Kaolin—
Rotterdam, 255 bgs. Hutchinson & Son

Paint—
New York, 112 cs. 21 pks. Wilson, Sons, & Co., Ltd.
Rotterdam, 5 pkgs.

Phosphate—
Dunkirk, 120 t.
Ghent, 2,424 bgs. Wilson, Sons, & Co., Ld.
,, 800

Phosphate Rock—
Coosaw, 1,700 t.

Plumbago—
Hamburg, 27 cks. Bailey & Leetham

Potash—
Antwerp, 4 dms. Bailey & Leetham

Sodium Nitrate—
Hamburg, 100 kgs. Wilson, Sons, & Co., Ld.

Starch—
New York, 100 bgs.
Bremen, 1,182 pks. Veltmann & Co.
Antwerp, 61 cs. Wilson, Sons, & Co , Ld.

Stearine—
Antwerp, 52 pks Wilson Sons, & Co., Ltd.

Sulphuric Acid—
Rotterdam, 1 bx. Hutchinson & Son

Tallow—
Boston, 140 tcs Wilson, Sons, & Co., Ltd.

Tartar—
Bordeaux, 1 ck. Helmsing & Son
,, 2

Tartaric Acid—
Antwerp, 8 cks. Bailey & Leetham
Rotterdam, 6 cks. Hutchinson & Son

Turpentine—
Libau, 104 brls.

Ultramarine—
Cologne, 16 cks.

Varnish—
New York, 20 brls. Wilson, Sons, & Co., Ld

Waste Salt—
Hamburg, 305 bgs. Furley & Co.
,, 530 qty. Bailey & Leetham

White Lead—
Cologne, 52 cks
Antwerp, 6 Bailey & Leetham
Rotterdam, 30 Tudor & Sons

Wood Pulp—
Hango, 324 bls. J. Good & Sons
,, 97 Furley & Co.
,, 61 pks.

GLASGOW.

Week ending April 5th.

Acetate of Lime—
New York, 393 bgs.

Albumen—
Hamburg, 5 cks.

Aniline—
Rotterdam, 4 cs 2 cks. J. Rankine & Son

Barium Sulphate—
Antwerp, 54 cks.

Barytes—
Rotterdam, 141 cks, J. Rankine & Son
,, 61

Bone Meal –
Bombay, 6,913 bgs.

Castor Oil—
Marseilles, 75 cks.
Antwerp, 22

Chemicals (*otherwise undescribed*)
Hamburg, 3 cs.

Colours—
Hamburg, 9 cs. 25 cks
Rotterdam, 2 4 J. Rankine & Son
,, 63 pkgs.
Amsterdam, 1 cs. 1 ck.

Copper Sulphate—
Nantes, 1 ck.

Dyestuffs—
Alizarine
Rotterdam, 16 brls. J. Rankine & Son
,, 24 pkgs.

Extracts
Baltimore, 50 brls. M'Arthur, Scott, & Co.
Nantes, 85 cks.
Antwerp, 3

Farina—
Hamburg, 420 bgs.

Fluor Chrome—
Rotterdam, 1 brl.

Glucose—
New York, 349 brls.
,, 695 Angus Brs.
Hamburg, 23 cks.

Lead Acetate—
Rotterdam, 77 cks.

Manganese Ore—
Hamburg, 20 t.

Ochre—
Marseilles, 95 brls.

Paint—
New York, 2 brls.

Paraffin Scale—
New York, 70 brls.

Phosphates—
Dunkirk, 1,046 bgs.

Pitch—
Marseilles, 12 cks.

Potash—
Rotterdam, 50 cks. J. Rankine & Son
,, 30

Pyrites—
Huelva, 1,690 t. Tharsis Co.

Rosin—
Baltimore, 200 brls. W. N. Gemmell
New York, 193

Soap—
Philadelphia, 450 bxs. 13 crts.
Marseilles, 1 cs.
New York, 500 bxs.

Sodium Nitrate—
Iquique, 2,500 t.

Starch—
Antwerp, 100 cs. 50 bgs.
Rotterdam, 32

Tallow—
Philadelphia, 50 hhds.
New York, 50 35 tcs.
,, 60 J. Osborne & Co

Tartar—
Nantes, 25 cks.

Varnish—
New York, 10 brls. 3 cs.
Antwerp, 1 ck.

Verdigris—
Marseilles, 1 brl.

Waste Salt—
Hamburg, 2,906 bgs. 246 cks.

White Lead—
Rotterdam, 36 cks. J. Rankine & Son
,, 9
Antwerp, 5

Wood Pulp—
Christiania, 1,567 bls.

Zinc Oxide—
Rotterdam, 25 cks. J. Rankine & Son

Zinc White—
Rotterdam, 100 cks. J. Rankine & Son

TYNE.

Week ending March 31st.

Acetic Acid—
Hamburg, 4 cks Tyne S. S. Co

Alum Earth—
Hamburg, 17 cks. Tyne S. S. Co.

Barium Chloride—
Hamburg, 4 cks. Tyne S. S. Co.

Barytes—
Antwerp 193 bgs 71 cks. Tyne S. S. Co.

Saltpetre—
Hamburg, 6 cks. Tyne S. S. Co.

Soap—
Rotterdam, 4 cs. Tyne S. S. Co.

Starch—
Rotterdam, 72 cs. Tyne S. S. Co.

Superphosphate—
Antwerp, 200 bgs. Tyne S. S. Co.

Ultramarine—
Hamburg, 20 cks. Tyne S. S. Co.

White Lead—
Antwerp, 10 cks. Tyne S. S. Co.

Wood Pulp—
Rotterdam, 20 pkgs. Tyne S. S. Co.
Christiania, 30 bls. 150 bdls.
Laurvig, 100

Zinc Oxide—
Rotterdam, 5 cks. Tyne S. S. Co.

GOOLE.

Week ending March 28th.

Caoutchouc—
Boulogne, 2 cs. 4 cks

Dyestuffs –
Alizarine
Rotterdam, 20 pkgs.
Logwood
Hamburg, 1,892 pcs 35 t.
Jamaica, 487
Belize, 542
Madder
Rotterdam, 3 cks.

Dyestuffs (*otherwise undescribed*)
Ghent, 5 cks.
Boulogne, 18 cks. 4 cs. 3 pkgs.

Farina—
Hamburg, 2,399 bgs.
Delfszyhl, 550

Potash –
Dunkirk, 22 cks. 30 dms.

Sodium Silicate—
Rotterdam, 4 cks.

Waste Salt—
Hamburg, 174 cks. 500 bgs.

GRIMSBY.

Week ending March 31st.

Albumen—
Hamburg, 6 cs.

Caoutchouc—
Rotterdam, 2 cs.
Hamburg, 3

Chemicals (*otherwise undescribed*)
Rotterdam, 9 cks.
Hamburg, 32

Dyestuffs (*otherwise undescribed*)
Dieppe, 4 pkgs.

Waste Salt—
Hamburg, 500 bgs.

EXPORTS OF CHEMICAL PRODUCTS

OF

THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending April 4th.

Acids—
E. London, 10 cs. £11

Alkali—
Cape Town, 14 c. £7
New York, 2 t. 18 452

Alum—
Otago, 1 t. £6

Aluminous Cake—
Danzig, 9 t. 15 c. £25
Calcutta, 18 3 66

Ammonium Carbonate—
Adelaide, 1 t. 16 c. £59
Sydney, 15 cs. 29
New York, 85 pkgs. 500
Dunkirk, 19 32
Philadelphia, 5 brls. 33
St John's, Nfld., 3 6
Rotterdam, 2 t. 8 85
Melbourne, 7 13

Ammonium Chloride—
Amsterdam, 7 c. 13
Varna, 18 30
Constantinople, 2 t. 10 85
Galatz, 16 31
Mauritius, 10 22
Mersyne, 3 7

Ammonium Sulphate—
Samarang, 250 t. £3,625
Ghent, 124 15 c. 1,750
Demerara, 10 130
Barbadoes, 25 363
Sourabaya, 300 4,400
Mauritius, 100 1 1,389
Hamburg, 80 1,000
Ostend, 35 480
Amsterdam, 100 1,400
Helsingfors, 34 16 492
Rotterdam, 50 700
Martinique, 150 2,190

—
lam 12 cks. £34
n, 10 c. 9
ma, 1 t. 15
1 16

ite of Lime—
a, 3 t. 9 c. £52
lay, 1 5 16

1 1 c. £16
e. 20 cs. 31
sim, 5 t. 2 140
am, 1 ck. 15
rne, 5 260
lay, 5 18
agen, 1 50
e, 10 14

c Acid—
1 t. 2 c. £57
am, 9 6 171
a. 28 dms. 24

Potash—
rne, 6 t 8 c. £91
9 20

Soda—
don, 4 t. 17 c. £55
3 1 47
wn, 9 17 91
lay, 4 19 55
rne, 15 7 143
n, 2 6
e. 5 8

als (*otherwise undescribed*)
e, 3 cs. 20 kgs. £95
own, 2 15
1 t. 2 c. 98
3 9
ma. 3 9

e of Lime—
don, 20 cs. £17

cid—
a, 6 c. £44
2 t. 10 365
lam, 5 36
nd, 1 9
1 5
agen, 10 76
rg, 15 113
3 24
2 cks. 16
10 370
eo, 1 kg. 15
a Bay, 2 cs. 20
1 t. 144
rne, 10 71
ma, 5 36

oducts—
arine
on, 2 kgs £16
ine Dyes
ne, 2 cks. £83
rne, 2 cs. 24
1 18
ork, 53 pkgs. 545
ine Oil
6 dms. £180
ol
11 cks. £125
lam 19 pns. 170
20 150

Tar Dyes
6 cks. £89
sote
ux 1,530 cks. £727
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ork, 102 pkgs. £159
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1,250 cks. £613
k, 678 t. 990
ork, 1,975 386
, 100 brls. 52
10 5
aya, 20 cks. 10
20 dms. £5
250 brls. 120
Bay, 320 10
ol
lam, 25 cks. £80
Sulphate—
ux, 35 t. £560
90 7 c. 1,381
1 3 19
on. 1 15
40 12 580
n, 18 3 265
11 160
ntinople, 12 9
4 6
ius, 1 2 20
1 10 23
6 4 95
20 320
9 17 150
5 76

Cream of Tartar—
Sydney, 3 t. 10 c. £237
Dunedin, 8 27
Lyttelton, 10 33
Wellington, 4 16
Melbourne, 5 16
Kobe, 10 38
Adelaide, 5 19

Disinfectants—
Bombay, 11 t. 16 c 19 pkgs. £130
Canterbury, 2 cs. 18
Kurrachee, 1 ck. 7
Melbourne 1 2 40

Disinfectants and Acids—
Rangoon, 17 pkgs. £31

Disinfectants and Ammonia (Liquid)—
Bombay, 8 pkgs. £39

Flowers of Sulphur—
Algoa Bay, 1 t. £8

Guano—
Demerara, 70 t. £770
Genoa, 75 750
Dominica, 17 10 180
Landerneau, 430 4,300

Lead Acetate—
Oporto, 6 c £9

Manure—
Trinidad, 35 t. £342
Ghent, 35 10 c. 130
Berbice, 40 440
Barbadoes, 252 6 1,915
Genoa, 9 17 98
Rouen, 189 16 890
Gothenburg, 197 580
Mauritius, 25 1 281
Libau, 97 2 255
Cullera, 590 5,310
Havre, 25 100
Bordeaux, 27 135
Townsville, 11 1 160
Rostock, 541 2 1,996
Rotterdam, 5 20

Nitric Acid—
E. London, 6 cs. £16

Oxalic Acid—
Melbourne, 20 cks. £70
Yokohama, 5 c. 9

Phosphate—
St. Lucia, 10 t. £27

Phosphoric Acid—
Berbice, 3 t. £50

Phosphorus—
Demerara, 1 c. £12
Montreal, 8 cs. 88
Otago, 20 201
Adelaide, 5 50

Potash Salts—
Auckland, 11 t. 10 c. £1,605

Potassium Bicarbonate—
New York, 20 pkgs. £67
Yokohama, 15 c. 22

Potassium Bichromate—
Oporto, 5 c. £13

Potassium Chlorate—
Hamilton, 4 c. £14
Odessa, 1 t. 68

Potassium Cyanide—
Antwerp, 5 c. £30
Sydney, 3 t. 13 363
Calcutta, 2 cks. 15

Potassium Sodium Tartrate—
Adelaide, 5 c. £15

Potassium Sulphate—
St. Croix, 10 c. £7

Saltpetre—
M. Video, 10 c. £11
Dunedin, 10 12
Lyttelton, 1 t. 27
Algoa Bay, 13 16
Bahia, 8 14 200
Hamilton, 16 19
Pernambuco, 38 12 900
Sydney, 7 5 148

Sheep Dip—
E. London. 250 drs. £49
Durban, 2,000 14 cs 706
Calcutta, 50 30

Soda—
Cape Town, 1 t. 13 c. £4

Soda Ash—
Rosario, 20 t. 5 c. £91

Soda Crystals—
Otago, 1 t. 8 c. £6

Soda Salts—
Philadelphia, 10 t. 19 c. £41
Toronto, 12 cs. £160
New York 2 35

Sodium Bicarbonate—
Algoa Bay, 10 c. £8
Cape Town, 6 5
Lyttelton, 1 t. 5 9
St. John's, Nfld., 15 6

Sodium Nitrate—
Otago, 5 t. 2 c. £51

Sodium Tartrate—
Oporto, 2 c. £7

Strontian Nitrate—
New York, 81 pkgs. £242
Yokohama, 5 c. 7

Sulphur—
Demerara, 2 t. £13
Trinidad, 10 c. 5
Cape Town, 6 14 60

Sulphur Dioxide—
Kobe, 2 c. £17

Sulphuric Acid—
Cape Town, 1 t. 10 c. £20
Algoa Bay, 4 8 18
Aden, 15 cs. 12
Santos, 3 6
Penang, 1 5 13
B. Ayres, 41 55

Superphosphate—
Rotterdam, 170 t. 17 c £670
Barbadoes, 170 680
St. Croix, 1 12
Martinique, 375 1,125

Tartaric Acid—
Lyttelton, 10 c. £47
Bombay, 3 14
Melbourne, 2 t. 10 235
Yokohama, 1 5 119
Dunedin, 4 21
Adelaide, 10 47

LIVERPOOL.

Week ending April 4th.

Alkali—
Antwerp, 2 t. 7 c. £12

Alum—
Galatz, 3 t. £21
Tunis. 1 9 c. 7
Cape Town, 6 3 33
Ancona, 1 1 5
Halifax, 2 1 10
St. John's, N.B, 2 2 10
Tripoli, 1 4 6
Alexandretta, 9 19 1 q. 46
Constantinople, 6 5 44
Manaos, 1 7
Havana, 4 15 16
Boston, 5 8 1 27

Ammonium Carbonate—
Ancona, 10 c. £18
Oporto, 1 t. 36
Carril, 10 18
Vigo, 16 28
Valparaiso, 1 10 2 q. 53
Newcastle, N.SW., 17 31
Copenhagen, 11 1 21
Odessa, 4 2 141

Ammonium Chloride—
Hamburg, 10 c. 2 q. £19
Antwerp. 1 t. 21
Alexandria, 1 37
Syra, 4 1 8
Montreal, 17 21
Genoa, 4 6 3 134
Galatz. 5 10

Ammonium Sulphate—
Valencia, 364 t. 3 c. 3 q. £5061
Philadelphia, 50 15 3 710
Antwerp, 10 3 1 140
Gd. Canary, 30 7 1 420
Dunkirk. 50 8 700
Pecalongan, 102 12 3 1,435
Hamburg, 10 141
Baltimore, 50 3 697
Pasages, 9 14 139

Asbestos—
B. Ayres, 1 cs.
Vera Cruz, 10 bgs.

Barium Chlorate—
Rotterdam, 4 c. £17
New York, 10 40

Barytes—
Hamburg, 19 t. 4 c. 1 q £100

Basic Slag—
Montserrat, 20 t. 9 c.

Bleaching Powder—
Ancona, 105 cks.
Boston, 760 10 bxs.
Calcutta, 150 cs.
Canada. 20
Dunkirk, 36
Pasages, 25
Amsterdam, 6
Corfu, 10
Genoa, 39
N. Orleans, 73 brls.
New York, 356
Oporto, 10
Venice, 7

Boracic Acid—
Yokohama, 1 t. 15 c. 2 q. £59

Borax—
Antwerp, 1 t. 2 c. £29
E. London, 4 10
Rotterdam, 2 16 2 q. 75
Hamburg, 8 12 3 242
Piræus, 12 2 17
Amsterdam, 1 15 55
Ghent, 10 15
Copenhagen, 2 4 1 63
Antwerp, 5 7 165
Galatz, 12 15

Calcium Chloride—
New York, 22 t 13 c. 2 q. £57

Carbolic Acid—
Odessa, 3 t 14 c. 2 q. £65
New York, 7 10 302
Hamburg, 2 3 133
Rouen, 3 2 45

Caustic Soda—
Algoa Bay, 7 dms.
Bahia, 30
Bari, 35
Boston, 25 50 brls. 50 bxs.
Brisbane, 30
Carril, 3
Cartagena, N G., 10
Fiume, 60
Lisbon, 150
Maranham, 15
N Orleans, 50
New York, 260
Pasages, 35
Portland, Or., 125
Salonica, 35
San Francisco, 500
San Sebastian, 100
Seville, 505 50
Sourabaya, 25
Sydney, 30
Tunis, 33
Baltimore, 220
Barcelona, 120
Guantanamo, 6
London, Ont., 25
Malaga, 175
M. Video, 100
Singapore, 20
Tarragona, 50
Yokohama, 100

Chemicals (*otherwise undes.*)—
Pt. Said, 1 c. £6
Piræus, 6 11
Salonica, 1 t 1 38
Palermo, 2 2 3 q. 79
Alexandria, 2 4 75
Odessa, 1 18 2 64
Mersyne, 16 29
Samsoun, 4 7
Syra, 5 9
Stettin, 3 7 1 127

China Clay—
Boston, 1,179 t. 9 c.
New York, 250
Bombay, 42 3

Chloroform—
Vera Cruz, 2 q. £6

Chrome Ore—
Bilbao, 50 t.

Citric Acid—
Montreal, 10 c. £77
Vera Cruz, 4 30

Coal Products—
Aniline Colours
Canada, 7 kgs. 1 ck. 1 cs.
Constantinople, 4
Smyrna, 2
Aniline Dyes
New York, 2 kgs.
Aniline Oil
Naples, 2 dms.
Aniline Salts
New York, 8 cs.

PRICES CURRENT. WEDNESDAY, April 11th,

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 116, PORTLAND STREET, MANCHESTER.

The values stated are F.O.R. at maker's works, or at usual ports of shipment in U.K. The price in different localities may

	£ s. d.
Acids :—	
Acetic, 25 °/₀ and 40 °/₀ .. .. per cwt.	6/9 & 10/9
,, Glacial .. .. ,,	50/-
Arsenic S.G., 2000° .. .. ,,	0 14 6
Fluoric .. .. per lb.	0 0 3¼
Muriatic (Tower Salts), 30° Tw. .. .. .. per bottle	0 0 10
,, (Cylinder), 30° Tw. .. .. ,,	0 3 0
Nitric 80° Tw. .. .. per lb.	0 0 1¾
Nitrous .. .. ,,	0 0 1¾
Oxalic .. .. nett ,,	0 0 3¼
Phosphoric, 1750° .. .. ,,	0 1 0
Picric .. .. ,,	0 1 0
Sulphuric (fuming 50 °/₀) .. .. per ton	15 10 0
,, (monohydrate) .. .. ,,	5 10 0
,, (Pyrites, 168°) .. .. ,,	3 0 0
,, ,, 150° .. .. ,,	1 5 0
,, (free from arsenic, 145°) .. .. .. ,,	1 6 0
Sulphurous (solution) S.G. 1025 .. .. .. ,,	3 0 0
Tannic (pure) .. .. per lb.	0 1 1
Tartaric .. .. ,,	0 0 11
Arsenic, white powdered .. .. nett per ton	14 5 0
Alum (loose lump) .. .. ,,	5 2 6
Alumina Sulphate (pure) .. .. ,,	5 0 0
Aluminoferric .. .. ,,	2 7 6
Aluminium .. .. per lb.	0 3 0
Ammonia, Anhydrous .. .. ,,	0 1 3
,, ·880=28° B .. .. per lb.	0 0 3
,, =24° B .. .. ,,	0 0 2¼
,, Carbonate .. .. nett ,,	0 0 3¾
,, Muriate .. .. per ton	25 0 0
,, ,, (sal-ammoniac) 1st & 2nd .. per cwt.	39/- & 37/-
,, Nitrate .. .. per ton	44 0 0
,, Phosphate .. .. per lb.	0 0 10½
,, Sulphate (grey) London .. .. .. per ton	13 13 9
,, ,, (grey) Hull .. .. ,,	13 11 3
Aniline Oil (pure) .. .. per lb.	0 0 5½
Aniline Salt ,, ... ,,	0 0 5¼
Antimony .. .. per ton	45 10 0
,, (tartar emetic) .. .. per lb.	0 0 10
,, (golden sulphide) .. .. ,,	0 0 10
Barium Chloride .. .. per ton	6 10 0
,, Carbonate (native) .. .. ,,	3 10 0
,, Sulphate (native levigated) .. .. .. ,,	45/- to 75/-
Bleaching Powder, 35 % .. .. nett ,,	7 10 0
,, Liquor, 7 % .. .. ,,	3 10 0
Bisulphide of Carbon .. .. ,,	11 15 0
Chromium Acetate (crystal) .. .. per lb.	0 0 6
Calcium Chloride .. .. per ton	2 5 0
China Clay (at Runcorn) in bulk .. .. .. ,,	17/6 to 30/-
Coal Tar Products and Dyes :—	
Alizarine (artificial) 20 % .. .. .. net per lb.	0 0 8
Magenta .. .. ,,	0 3 9
Anthracene, 30 % A, f.o.b. London .. per unit per cwt.	0 1 1
Benzol, 90 % nominal .. .. per gallon	0 1 2½
,, 50/90 ,, ... ,,	0 1 5
Carbolic Acid (crystallised 40°) .. .. .. per lb.	0 0 6¼
,, (crude 60°) .. .. per gallon	0 1 7
Creosote (ordinary) .. .. ,,	0 0 1½
,, (filtered for Lucigen light) .. .. .. ,,	0 0 2½
Crude Naphtha 30 % @ 120° C. .. .. ,,	0 0 6
Grease Oils, 22° Tw. .. .. per ton	2 5 0
Pitch, f.o.b. Liverpool or Garston .. .. .. ,,	1 7 6
Solvent Naphtha, 90 % at 160° .. .. .. per gallon	0 1 2
Lucigen" and "Wells Oils .. .. ,,	0 0 2½
Copper .. .. per ton	40 12 6
,, Sulphate .. .. ,,	15 10 0
,, Oxide (copper scales) .. .. ,,	40 0 0
Glycerine (crude) .. .. ,,	15 10 0
,, (distilled S.G. 1250°) .. .. ,,	44 0 0
Iodine .. .. nett, per oz.	0 0 9
Iron Sulphate (copperas) .. .. per ton	1 5 0
,, Sulphide (antimony slag) .. .. ,,	2 0 0
Lead (sheet) for cash .. .. ,,	10 7 6
,, Litharge Flake (ex ship) .. .. ,,	13 0 0
,, Acetate (white ,,) .. .. ,,	25 15 0
,, ,, brown ,,) .. .. .. ,,	16 10 0
,, Carbonate (white lead) pure .. .. .. ,,	20 0 0
,, Nitrate .. .. ,,	20 0 0

	£
Lime, Acetate (brown) .. .. per ton	6
,, ,, (grey) .. .. ,,	10
Magnesium (ribbon and wire) .. .. per oz.	0
,, Chloride (ex ship) .. .. per ton	2
,, Carbonate .. .. per cwt.	1
,, Hydrate .. .. per ton.	17
,, Sulphate (Epsom Salts) .. .. .. per ton	3
Manganese, Sulphate .. .. ,,	17
,, Borate .. .. per cwt.	2
,, Ore, 70 % .. .. per ton	4
Methylated Spirit, 61° O.P. .. .. per gallon	0
Naphtha (Wood), Solvent .. .. ,,	0
,, ,, Miscible, 60° O.P .. .. .. ,,	0
Oils :—	
Cotton-seed .. .. per ton	21
Linseed .. .. ,,	21
Petroleum, Russian .. .. per gallon	0
,, American .. .. ,,	0
Phosphorus (yellow) .. .. per lb.	0
,, (red) .. .. ,,	0
Potassium (metal) .. .. per oz.	0
,, Bichromate .. .. nett per lb.	0
,, Carbonate, 90% (ex ship) .. .. .. per ton	16
,, Chlorate .. .. per lb.	0
,, Cyanide, 98% .. .. ,,	0
,, Hydrate (Caustic Potash) 80/85 % .. per ton	21
,, ,, (Caustic Potash) 75/80 % .. ,,	20
,, ,, (Caustic Potash) 70/75 % .. ,,	19
,, Nitrate (refined) .. .. per cwt.	1
,, Permanganate .. .. per cwt.	3
,, Prussiate Yellow .. .. per lb.	0
,, Sulphate, 90 % (ex ship) .. .. .. per ton	9
,, Muriate, 80 % (do.) .. .. .. ,,	8
Silver (metal) .. .. per oz.	0
,, Nitrate .. .. ,,	0
Sodium (metal) .. .. per lb.	0
,, Carb. (refined Soda-ash) 48 % .. nett per ton	4
,, ,, (Caustic Soda-ash) 48 % . ,, ,,	4
,, ,, (Carb. Soda-ash) 48% .. .. ,, ,, F.O.R.	4
,, ,, (Alkali) 58 %) .. .. .. ,, ,,	3
,, ,, (Soda Crystals) .. .. .. ,, ,,	2
,, Acetate (ex-ship) .. .. ,,	14
,, Arseniate, 45 % .. .. ,,	11
,, Chlorate .. .. per lb.	0
,, Borate (Borax) .. .. net, per ton.	28
,, Bichromate .. .. ,, per lb.	0
,, Hydrate (77 % Caustic Soda) (f.o.b.) net pr. ton	10
,, ,, (74 % Caustic Soda) ,, ,, ,,	10
,, ,, (70 % Caustic Soda) ,, ,, ,,	9
,, ,, (60 % Caustic Soda) .. ,, ,,	8
,, ,, (60 % Caustic Soda, cream) (f.o.b.) ,, 10 ton lots	7
,, Bicarbonate .. .. ,,	6
,, Hyposulphite .. .. ,,	5
,, Manganate, 30% .. .. ,,	16
,, Nitrate (95 %) ex-ship Liverpool .. .. per cwt.	0
,, Nitrite, 98 % .. .. per ton	29
,, Phosphate .. .. ,,	15
,, Silicate (glass) .. .. per ton	5
,, ,, (liquid, 100° Tw.) .. .. .. ,,	4
,, Stannate, 40 % .. .. per cwt.	3
,, Sulphate (Salt-cake) .. .. per ton.	0
,, ,, (Glauber's Salts) .. .. ,,	1
,, Sulphide .. .. ,,	8
,, Sulphite .. .. ,,	5
Strontium Hydrate, 100% .. .. ,,	8
Sulphocyanide Ammonium, 95 % .. .. per lb.	0
,, Barium, 95 % .. .. ,,	0
,, Potassium .. .. ,,	0
Sulphur (Flowers) .. .. per ton.	7
,, (Roll Brimstone) .. .. ,,	5
,, Brimstone : Best Quality .. .. .. ,,	3
Superphosphate of Lime (26%) .. .. ,,	2
Tallow .. .. ,,	28
Tin (English Ingots) .. .. ,,	75
Tin Crystals .. .. per lb.	0
Zinc (Spelter) .. .. per ton	15
,, Chloride (solution, 96° Tw.) .. .. .. ,,	5

THE

CHEMICAL TRADE JOURNAL

AND

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tisements intended for insertion in the current week's issue each the office by **Wednesday morning** at the latest.

CURRENT TOPICS.

IS IT BUSINESS OR FRAUD?

HOWEVER commendable the theory of the survival of the fittest may be, still in practice it seems as if the fittest do not always survive, but are frequently either oppressed or actually exterminated by unworthy rivals. At all events the proverbially prodigious growth of ill-weeds is often attested by everyday experience in a fashion which is calculated to impugn the absolute reliability of the survival theory.

The successful results which apparently attend the efforts of the enterprising promoters of the Parisian Inventors' Academy, as it is styled, are certainly in closer accord with the ill-weed theory than with that of the survival of the fittest. Nearly two years ago, we had occasion to refer to this Academy as being a specious but craftily laid trap for the unwary and credulous, and certainly thought the movement would before long defeat its own ends; yet to-day it seems to be offering its untold advantages of honorary membership with as much impunity as ever. By way of explanation, it should be stated that this Academy sends a letter to inventors, telling them they have been elected honorary members of the Academy for their latest invention, and awarded a first-class diploma and great gold medal (gilded). The possession of this honorary title costs nothing—and its value is about the same—but if you are desirous, as an inventor, of substantiating your claim to the title, you have to send £2 to the Academy, when the diploma and the great gilded gold medal will be forwarded. The generosity of the Academy, however, is of such an order that it is necessary to add that this sum of money is not asked for in order to cover the cost of the diploma and medal. Oh, no! They are given you by the Academy as a token of its appreciation of your invention; the two pounds are only wanted to cover the incidental expenses of taxes and freight. Now, we think the most simple-minded must perforce admit that the appreciation of the public, when testified by the way they purchase a patented article, is a much more trustworthy indication of the true merit of an invention than any spontaneous recognition such as is offered by this Academy. It must surely occur to most people that, if the Academy is so eager on the behalf of an inventor to signify its appreciation of his invention, the method of administering its approbation is capable of much improvement. The diploma and great gilded-gold medal cannot weigh many pounds altogether, so that it would be more compatible with the philanthropy which the Academy professes to make use of the parcel post, and to send, as it would be possible to do, both medal and diploma for 2s., instead of £2.

It truly seems marvellous how such palpable frauds continue to receive support, but two years do not seem to have exhausted the resources of the promoters of this Academy. Doubtless, the registration of patent agents has, and will do much to put a stop to such practices. They can only be directly capable of harm

by taking advantage of the unsuspecting and ignorant, or indirectly by granting to rogues worthless titles with which to prey upon the same class of people. It is evident that the promoters apprehend some opposition from the Press by the way they notify inventors to the effect that they take no notice whatever of any aspersions which may be cast upon the Academy by Press writers. It is only natural for the promoters of the Academy, being as they must imbued with such a spirit of cosmopolitan generosity, to be well aware of the futility of hoping that the sordid minds of Pressmen could possibly be capable of comprehending such sublime philanthropy, and accordingly to forestall their declamations. In spite of this, however, we have ventured to decry the Academy, and are quite content to leave to our readers' judgment the settlement of our claims to honesty and those of the Academy.

PRODDING UP THE LOCAL GOVERNMENT BOARD.

Sanitarians, not only in the Lancashire and Cheshire districts, but also in other parts, are awaking to the fact that no matter whose shoulders the blame should rest upon, whenever any sanitary improvement reaches the stage where application has to be made to the Local Government Board, delays of all kinds begin to crop up, and things are virtually brought to a standstill. Sir G. Morgan has been endeavouring to hurry on the Ruabon sewage scheme by questioning the President of the Local Government Board in Parliament, but it is doubtful if he will accomplish much good, though the effort is worth recording. The case seems to be one which is much the same as many others. A scheme is submitted and objected to on the ground of cost; a second scheme is then submitted, when the Board advise that the first scheme should be reverted to, and so the game goes on.

It certainly is hard to say whether the Board is most to blame for its procrastinating ways and general incapability, or the authorities who put off the day of reckoning with their electors by taking wilful advantage of their knowledge that the Board is undermanned and overworked, and that red-tapeism is rampant in the department of Local Government.

Either way, the practical outcome is the same, and throwing mud will not solve the difficulty. We want better facilities for getting good schemes passed, and meting out to extravagant and wanton schemes more drastic treatment. To obtain these facilities would be a stupendous task for one individual, or even two or three. Public opinion is the agency by means of which the desired changes may best be effected, and reformers should use their utmost endeavours to rightly cultivate the same.

THE STATE OF THE CHEMICAL TRADES.

IN the Tyne and Wear Districts, chemical, cement, and lead works are much the same as in February. In the glass and bottle trade employment is better, but paper-makers are very quiet. The calico printing and dyeing trade round Burnley and Accrington is said to be fairly good. In the Manchester District trade with bleachers and dyers is moderate. The chemical trade in Liverpool and district is much the same as in February, and there are a number of men unemployed. The salt trade at Middlesbro', however, is still continuing brisk. About Hull, the seed crushing industry is pretty much the same. Many mills are running short time. There is a slight improvement in paint and colour works, and work is more regular. The makers of welded steel tubes in the Birmingham district are busy, as are also enamellers. Galvanised sheet work, as well, is better than it was. In the Cardiff district an improvement is anticipated in the tin-plate trade, and the steel trade is also rather more active than it has been.

THE ALKALI TRADE.—Messrs. Bowman, Thompson and Co., Ltd., of Lostock, near Northwich, in consequence of their manufactured stocks having been cleared off, and of the increasing demand for alkali, recommenced to work their alkali department yesterday (Friday), so that the whole of their plant will now be in operation, including the new bleach plant, and the full complement of men will be at work.—It is stated that at Whitsuntide work at the whole of the establishments in St. Helens and Widnes owned by the United Alkali Co. will be suspended for a fortnight or three weeks.

RECENT CUSTOM'S DECISIONS.

GROUND FLUORSPAR.

IN the matter of the protest of the Haberman Manufacturing C against the decision of the collector of customs at New Y the rate and amount of duties chargeable on certain fluorspar, May 15, 1893, the following is the opinion by General Wilkinson:—

The merchandise is fluorspar ground into impalpable pov was assessed for duty at 20 per cent. under section 4 N.T claimed to be exempt from duty, directly or by assimilation, feldspar under paragraph 568, as flint under paragraph 57 stone under paragraph 723, or to be dutiable at 10 per cer section 4.

We find that the article is not feldspar, flint, nor any of th enumerated in paragraph 723, and that it is not a crude article

The protest is overruled accordingly.

BURNT OCHRE.

In the matter of the protest of B. P. Lucas and Co., ag decision of the collector of customs at New York as to the amount of duties chargeable on certain burnt ochre, imported 17, 1893, the following is the opinion by General Appraiser W

The merchandise, invoiced as burnt ochre and entered a paint," is a pigment about the colour of brick dust. The U.S reports that it consists of a mixture of oxide of iron and sul lime, and in his opinion is a variety of Venetian red. It was for duty at 25 per cent. under paragraph 61 N.T., as a co specially provided for, and is claimed to be dutiable under p 54 as an ochre or ochrey earth.

The most common colour of ochre is yellow, but it is usual t to turn red on burning. This red shade is very similar to Ven and Indian red. But even if the article were both an ochr colour known as Venetian red, the provision for ochre would as Venetian red is not specially provided for.

We find that the merchandise in question is burnt ochre, an is an ochre or ochrey earth, and that it is so commercially kno

The protest is sustained accordingly.

This decision is not in conflict with G.A. 629, as the Vene in that case was found to be distinct from ochre.

Reports of Companies.

THE SMOKELESS POWDER COMPANY, LIMITE

An extraordinary general meeting of the Smokeless Powd pany, Limited, was held last week at Winchester-house for the of confirming resolutions, passed on the 22nd ult., for the rec tion of the company. Mr J. D. Dougall, who presided, sta since they last met it had come to the knowledge of the Board powder which they supplied to the Indian Government in 1 given every satisfaction. They understood that half a cartridges were forwarded to the Bengal Presidency and a qua million to the Madras and Bombay Presidencies respectivel Canadian military authorities had also tested their powder w factory results. At the last meeting a shareholder, who agr reconstruction was necessary, expressed the opinion that it ough accompanied by a scheme of debentures, so that those who w take them up and become their own mortgagees might h opportunity of doing so. Under the directors' scheme of recon 1s. only would be payable on application and the remainin intervals of not less than four months, as required, in calls of time. While the board quite approved the proposal to give th holders the option of becoming their own mortgagees, they consider it absolutely essential, as the present mortgages c carried on in the new company and gradually reduced. Mercer had sent in proxies from 26 shareholders holding on shares, whereas the directors had obtained proxies from 99 shar representing 47,613 shares. He then proposed that the res passed on the 22nd ult. be confirmed. Mr. Duthoit having s the motion, Captain Mercer criticized at some length the d circular of the 6th int., and denied that he wished to wreck t pany in order to buy it up and work it on his own accoun Collins thought it would be better for the shareholders to get w could out of the company now without running the risk of losses. In reply, at the close of a long discussion, the chairm that the business done by the company since the last meeting w than double what it was 12 months ago. As to their accumula he said the directors would be prepared to take a large propo them in shares. The resolution was then carried by a large ma

Official Memoranda.

(From the Board of Trade Journal.)

ENGLISH COAL AT HAMBURG.

Hon. C. S. Dundas, Her Majesty's Consul-General at Hamburg, report to the Foreign Office, states that in consequence of the high nanded by the Westphalian Collieries, the Hamburg Gasworks otiated for their supplies up to 100,000 tons in England. It is reported that for the same reason the requirements for the districts of Hamburg, Altona, Bremen, Schleswig-Holstein, klenburg have been supplied from English coal.

THE CAUCASIAN PETROLEUM TRADE.

eport to the Foreign Office, Mr. P. Stevens, Her Majesty's t Batoum, transmits a translation of the text of an agreement concluded between two groups, comprising as many as 96 per he oil producers, refiners, and exporters of Baku, with a view neral advancement of the petroleum industry of the Caucasus. ernment has also allowed a reduction of 5 copecks a pood, or er ton, on the transport of light oils over its railway from Baku m. The tariff for the conveyance of heavy oils, however, is to s heretofore.

tevens adds, in his report, that he is given to understand that e introduction of the above-mentioned measures, increased s being displayed at the different oil-producing and refining f the Apscheron Peninsula.

THE MINERAL PRODUCTION OF GERMANY.

ling to the German Imperial Statistics for 1892, *Coal* was 343 collieries in Prussia, 22 in Bavaria, 36 in Saxony, 2 in othringen, and 4 in other States, to the amount of 71,362,193 ued at 526,979,176 marks (£26,348,958.), of which quantity 9 tons were consumed in the working, the total number of employed being 289,415, including 221,717 men underground, ien on the surface, and 6,153 women on the surface. Lignite acted from 410 mines in Prussia, 8 in Bavaria, 109 in Saxony, sse, 5 in Brunswick, 42 in Saxe-Altenburg, 11 in Anhalt, and remaining States, to the amount of 21,171,857 tons, valued at 98 marks (£2,925,294), (3,736,117 tons being consumed in ing) by 37,480 persons, including 16,858 men underground, ien on the surface, and 1,078 women on the surface. *Graphite* nount of 4,036 tons, valued at 252,960 marks (£12,648.), was at 32 mines, employing 201 hands; and 53,279 tons of from 9 mines, valued at 418,850 marks (£20,942.), employing ons. *Mineral oil*, obtained from 11 workings, with 333 per- nounted to 14,527 tons, valued at 879,762 marks (£43,988.), was worked at 388 mines in Prussia, 34 in Bavaria, 13 in 2 in Wurtemburg, 16 in Hesse, 6 in Brunswick, 3 in Schwarz- lolstadt, 3 in Waldeck, 33 in Elsass-Lothringen, and 15 in tes, producing 8,168,840 tons, valued at 34,844,846 marks 242), and employing 31,966 persons, including 20,997 men und, 8,832 men on the surface, and 2,137 women on the *Manganese* was put out from 12 mines in Prussia, 24 in Saxe- Gotha, and 10 in other States, to the amount of 32,861 tons, 507,697 marks (£25,384.), employing 620 persons, including rground.

PRODUCTION OF BALATA IN SURINAM.

the most valuable forest products of Surinam, and one which has siderably exported, is the caoutchouc-like substance known as Balata gum holds the first place among the substitutes for cha. It is obtained from the *mimusops balata*. The balata ibines in some degree the elasticity of caoutchouc with the of gutta-percha, freely softening and becoming plastic, and ily moulded like gutta-percha. The tree which produces this distributed over the colony, even in parts so far in the interior e been hardly visited as yet; and the industry, now that e has taught how it can be carried on without the wasteful tion of the tree, should have a positive future value. Better access and of working are required before the expenses of n form the proper proportion of the value produced.

is principally exported to the United States of America, small ents also reaching Holland and Great Britain.

THE JAPANESE SULPHUR INDUSTRY.

, called in Japanese "iwo" or "yuwo," is found as a glossy f sublimation, often covering the crater, wells, crevices, and ctive and extinct volcanoes throughout the country. By far st amount of Japanese sulphur is formed by decomposition of uretted hydrogen of the very numerous *solfataras*.

The export trade in this article has grown rapidly since the opening of the country to foreign commerce. In the year 1868, the earliest date for which reliable Customs statistics are available, there were exported 131 tons, valued at £1,350. Recent returns show the following figures: 1890, 20,724 tons, valued at £43,330.; 1891, 21,108 tons, valued at £47,470.; and in 1892, 14,589 tons, valued at £41,560.

In February, 1893, there were 84 mines in operation, of which only 13 produced annually more than 100 tons each.

MEXICAN DYEWOODS.

In Mexico no fewer than four hundred different woods grow naturally, all of which are utilised in different ways. Fifteen of these are used for dyestuffs. One tree, called purplewood, in its natural state is as brilliant as the famous Tyrian dye. The wood looks as if it had been dyed with perfect material, yet that is the way it grows. Another, the species known as "palo-moral," is also very valuable for dyeing fast colours. It is found in considerable quantities in the States of Tamaulipas and Nuevo Leon. However, the principal and best known dyewoods are campeachy (logwood), Brazil-wood, and fustic (*palo-amarillo*). The dyewoods exist mainly and extensively in the States of Campeachy, Vera Cruz, Tabasco, Yucatan, Chiapas, Oaxaca, Guerrero, and Tamaulipas. In the States of Sinaloa, Jalisco, Colima, Neuvo Leon, and Michoacan there is quite an abundance, but the forests have not as yet been much explored.

The business of collecting and exporting these woods is very lucrative. Several German and a few English firms have been in the business for a number of years in the States of Campeachy, Yucatan, Tabasco, and Vera Cruz, and have made considerable money. The Germans and French were the first to develop the business of exporting these woods, but England for the last few years has almost monopolised it. The principal markets are England, Germany, the United States, France, Spain, and Russia (recently).

The wood commonly known as "palo-moral," or "palo-amarillo, is very important, on account of its abundance and the facilities for obtaining it. It abounds along the Gulf coast, Guerrero, and Michoacan; but that which is produced in Isla del Carmen (island of Carmen), Tamaulipas (Tampico), and Vera Crux (Tuxpan) is more valuable, having a greater proportion of dyeing qualities. It is exploited like campeachy and Brazil-woods. Different sized logs are cut and the bark is separated before both (the bark and wood) are disposed of for market. Its colouring matter in the Mexican market is utilised principally for staining cotton, silk, and more particularly wool, with a beautiful yellow. In combination with campeachy, indigo, and salts of copper and iron, various other colours are produced. For many years it has been exported to Germany, France, and England, its exportation running as high as 9,000,000 kilogrammes a year (kilogramme= about 2¼ lbs.).

Although the forests of these and other woods cover almost all the coasts of the Republic, and are still very extensive, it has been thought that the random and careless manner of cutting down the trees would in time destroy them; hence the department of encouragement has issued a circular to prevent the destruction of this immense source of wealth. The Government also, with the same object, has placed an export duty on cabinet and construction woods of 1·50 dol. per cubic metre, and on campeachy of 1·50 dol., and palo-moral of 75 cents per ton of 1,000 kilogs. But it is the opinion of Mr. Glezias, in the department of Fomento, that notwithstanding the wanton manner of the natives in cutting the trees, this Mexican resource is almost inexhaustible. Vegetation is so prolific along the coast and tropical section of the country that cutting trees and clearing the ground stimulates the growth of its products, and immediately after trees are felled a new supply of young trees is ready to substitute them.

THE ALCOHOLIC STRENGTH OF IMPORTED SPIRITS.

In answer to the inquiry made by the West India Company, of Billiter House, London, into the method adopted in the Customs department of ascertaining the true alcoholic strength of spirits to which sweetening, colouring, or other matter interfering with the free action of the hydrometer has been added, the Board of Customs state that they have found that the correct strength of spirit such as rum, in which colouring or sweetening matter is present, cannot be ascertained by Sykes's hydrometer without first distilling the spirit, and that, under the law as it now stands, the Customs resort to distillation in the first instance for the purpose of ascertaining the true alcoholic strength of such spirits by Sykes's hydrometer.

MESSRS. HEDLEY, REITMEYER & CO.—Messrs. Windschuegl and Hedley having dissolved partnership, we are informed that Mr. J. Hedley, jun., has been joined by Mr. R. Reitmeyer, and will trade together as the firm of Messrs. Hedley, Reitmeyer & Co., as exporters and importers of chemicals, oils, drugs, and drysalteries. Their business address for the present will be as formerly, 11, Crooked-lane, Cannon-street, London, E.C.

THE GRIFFIN MILL.

THE chief feature about this mill is the principle upon which it works. The application of the power of centrifugal force for grinding purposes is a departure from most of the ordinary methods of disintegration The sectional elevation, as represented by Fig. 1, shows the arrangement of the working parts. The roll attached to the extremity of the vertical shaft is caused to revolve by the pulley at the top of the machine, and by means of the universal joint is able to follow

operating the mill, the material to be ground is fed into the h the automatic feeder, driven off the main shaft by the speed pu shown in Fig. 1, until sufficient material has been introduced t pan up to the shoes underneath the roll.

On setting the mill in motion these shoes act upon the ma be ground, work in it, stir it up, and throw it against the that it is acted upon by the roll. When fairly in operation th body of loose material whirls around rapidly within the p being brought between the roll and die is crushed, all sufficiently fine passing away at once through the screen at

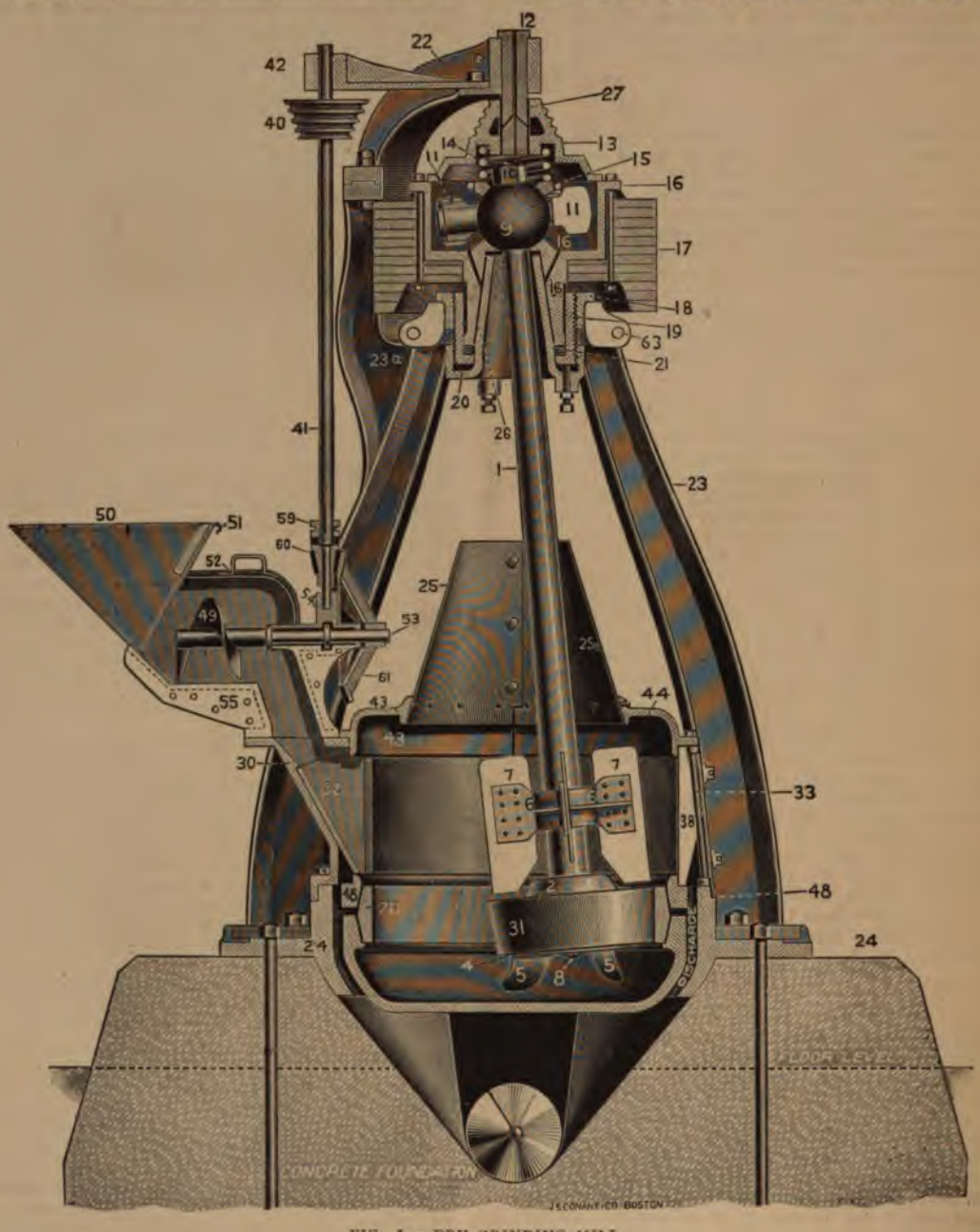

FIG. 1.—DRY GRINDING MILL.

a circular path around the die or ring in the base pan. The pressure exerted by centrifugal force against this die crushes and disintegrates the material to be ground. The pan, or base, has a number of openings through it downward, outside of the ring or die, which lead into a pit or receptacle below, from which the ground material can be removed by a conveyor if desirable.

On the shaft just above the roll are fans, which, when the mill is in operation, draw air in down the open topped cone which surmounts the grinding pan, and forces the finely ground particles away through the screen, at the same time keeping all dust within the machine. In

die, the coarser portion falling down to be acted upon

The universal joint, by which the shaft is connected with the affords the roll perfect freedom of movement, so that it can eas over obstructions of any kind. Pieces of iron or steel, such usually found in the material to be ground, thus do no damag mill.

The screen surrounding the pulverising chamber is of a much mesh than the delivered product, and consequently the clogging occurs when fine mesh screens have to be employed to prod products is avoided. There is no need to enumerate the

ials such a mill is capable of grinding, but the following figures tly obtained from an ordinary working trial give a good idea of apabilities of the mill. When grinding *Cement*, the quantity ted on being 15 tons 4 cwts., the average output per hour was cwts., leaving a residue in different sieves as expressed by the ing percentages:—100 mesh 11%, 80 mesh 7·3%, 60 mesh With *Basic Slag* containing 2½% of ungrindable steel, ntity of 15 tons 6 cwt., gave on the average per hour 10·84 cwts., residue on a 100 mesh sieve of 9·9%, on a 60 mesh 2·15%. , high-class *Florida phosphate* Florida pebble phosphate, and phosphates are usually found to be very difficult to grind. One

The great advantage of this mill, as made by the Bradley Fertiliser Company, Boston, U.S A., whose agents in this country are Messrs. Wyllie and Gordon, and Mr. W. E. Tait, 34, Clement's-lane, Lombard-street, E C., lies in the fact that all the working parts which require lubrication are so situated as to be away from the dust produced in the pulverising chamber. It has only one journal, which, being located in the pulley, is free from all exposure to dust, and needs but little attention when in operation. The roll is rigid on the shaft, and the only three working wearing parts are those operating on the material, which are easily replaced at small cost. They are self contained, easily erected, and only occupy from 10 to 12 square feet.

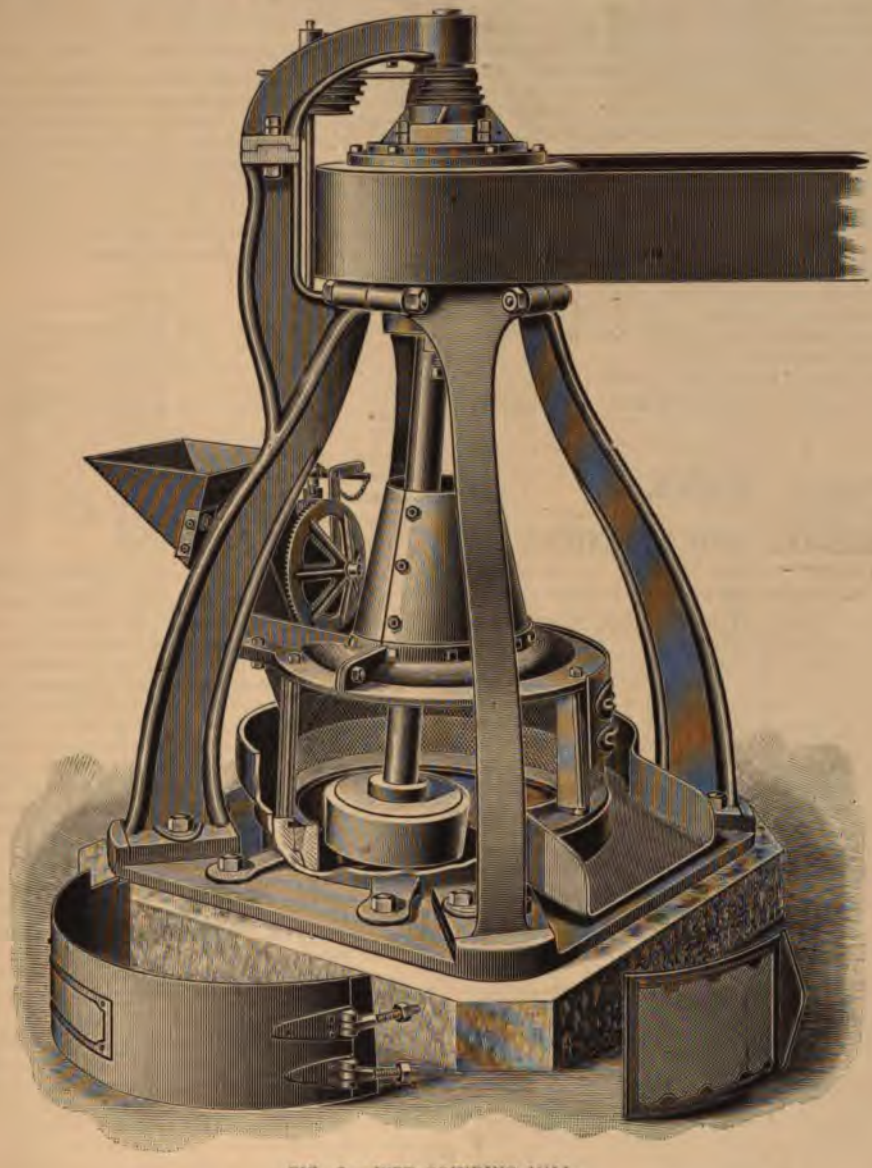

FIG. 2.—WET GRINDING MILL.

se mills, after having been continually at work for three weeks, ound to be producing on the average 35 to 40 cwts. of ground hate per hour, of which 94 to 98% easily passed through a 60 screen.

wet pulverising the fans are omitted, figure 2 showing a mill ged for working in this fashion. Water is introduced along with aterial into the feed hopper. After being ground, the fine ial, with the water composing the pulp, passes through the s into the surrounding trough, and is discharged on one side, e it may be passed over plates, or into an amalgamator or con- tor, as desired. The construction of the mill is such that the oil t out of the pulp, an advantage that will be appreciated by g men, this form of the mill being chiefly used for grinding gold lver ores.

The power required to drive them compares favourably with other mills, for an equal amount of material ground; the pressure exerted by the roll upon the die being calculated at over 2½ tons. The pulley makes about 200 revolutions per minute, and the total weight of the machine is rather better than 7,000 pounds.

THE SALE OF SHEEP DIP.—At Leeds, last week, three leading chemists of the city were summoned under the Pharmacy Act for selling packets of sheep dip, each of which, according to the evidence of an analyst, contained enough poison to kill between five hundred and a thousand persons. It was contended for the defence that the compound was only used by agriculturists, and did not come into the possession of the public. A fine of 50s. and costs was imposed.

Parliamentary Jottings.

THE INDIAN SALT LAWS.

In the House of Lords last week, Lord Stanley of Alderley referred to an article entitled "A Salt Hunt in Orissa," published in the *Pioneer* in November last, and asked whether the Secretary of State for India would renew the orders issued by Lord Cross against prosecutions for trivial infractions of the salt laws, and whether the quantities of consumption of salt per head of population given in the official Salt Report included the amount of salt consumed by cattle.

Lord Reay read a series of returns showing that the consumption of salt in Orissa had not increased since 1886. In 1891 orders were issued by the then Secretary for India against prosecuting the poorer class or ryots for manufacturing salt for home consumption and not for sale. Those orders were still in force in isolated districts. There might be cases of over-officious zeal, but all these instances were opposed to the spirit and intention of the India Office. The amount of salt consumed by cattle in Orissa was not taken into account in the official returns. It was very little.

Viscount Cross confirmed the noble Lord's statement with reference to the orders issued in 1891. Since then there had been no complaints.

THE "BOARD OF TRADE JOURNAL" AND THE "LABOUR GAZETTE."

In the House of Commons last Monday, in reply to Colonel Howard Vincent, Mr. Mundella said: I cannot give the details for which the hon. member asks, but I understand that there is no loss to the State on the two periodicals in question. The Board of Trade have nothing to do with the publication and sale of the *Labour Gazette*, which is entirely in the hands of the contractors.

THE PATENT AGENTS REGISTRATION BILL.

This Bill has been read a second time, and referred to a Select Committee.

Laboratory Notes.

ANALYTICAL, PHYSICAL, AND TECHNICAL.

THE RAPID VOLUMETRIC ESTIMATION OF CERTAIN BASES.

IN the "Laboratory Notes," appearing in issue No. 356 of this *Journal*, we mentioned a rapid and handy method for estimating the alkaline earths volumetrically with a standard solution of potassium carbonate, using an alcoholic solution of phenolphthalein as indicator. This process is obviously capable of many applications, and the following methods of applying the test to technical work have been devised by Mr. Frank H. English, who has been working in this direction for some months past, using a sodium carbonate solution and phenolphthalein, for the estimation not only of Barium, Strontium, and Calcium, but also of lead, zinc, and aluminium.

Describing his experiments he says:—When titrating soluble metallic salts, capable of being precipitated as carbonates with sodium or potassium carbonates, using phenolphthalein as indicator, the characteristic red colouration does not appear until all the bases are completely precipitated. From the foregoing it will be seen that certain bases belonging to the first five groups may be estimated by means of a standard solution of carbonate of sodium. The method of analysis is as follows:—

Solutions required.—(1) Semi-normal sodium carbonate, and (2) an alcoholic solution of phenolphthalein. From one to two grammes of the salt are dissolved in water, and allowed to boil, and then titrated while still hot with the soda solution, using the phenolphthalein as indicator. The solution should be stirred briskly during the titration. With a little practice the final re-action can be easily detected.

In the case of oxides and carbonates, or salts insoluble in water, but soluble in HCl, the method of analysis has to be slightly varied. The substance is weighed into a beaker and dissolved in the slightest excess of HCl, when completely dissolved the excess of acid is neutralised by Na_2CO_3 solution, using as indicator methyl orange. When neutral add phenolphthalein and a little water, and proceed as before. The results obtained by the above method compare favourably with other well-known methods, as regards accuracy and speed. The following analyses are the mean of several determinations, and show the suitability of the test for technical work:—

Base Sought.	Salt Taken.	Soda Method.	Gravimetric Method.
PbO	$Pb(NO_3)_2$	67·17	67·23
Al_2O_3	*$Al_2(SO_4)_3$ 18 H_2O	17·99	17·98
ZnO	$ZnSO_4+7H_2O$	28·38	28·38
CaO	$CaCO_3$	55·86	55·88
BaO	$BaCl_2$ $2H_2O$	62 59	62·60

* Commercial Salt.

This method is admirably adapted for the rapid estimation of lime in limestone and sifted lime, and is useful for those engaged in chemical works' laboratories where these bodies have to be tested daily. It may also be of use to the print or dyeworks' chemist for the estimation of alumina in red liquors, and lead in nitrate of lead liquor.

Of course, in estimating any individual base, no other base capable of being precipitated as carbonate must be present.

ESTIMATING FREE AMMONIA IN GAS LIQUOR.

In the estimation of the free ammonia in gas waters where considerable quantities of sulphides are present, the litmus used as an indicator is generally destroyed by the liberation of sulphuretted hydrogen. This inconvenience can, it is stated, be removed by the addition of a solution of subacetate of lead to the alkaline solution which is to be titrated.

QUANTITATIVE ESTIMATION OF HYDROGEN CYANIDE.

A comparison of the different methods for the estimation of prussic acid shows that Volhard's method furnishes the most exact results. The method is as follows: 100 c.c. of the liquid to be tested are taken with 5 c.c. of ammonia, 50 c.c. $\frac{N}{10}$ silver nitrate solution and enough nitric acid to make the solution strongly acid Make up the whole to 250 cc., agitate strongly, and filter through a dry filter directly the Ag CN has settled. 50 c.c. of the solution are then taken, and after the addition of a drop of ferric sulphate, titrated back with $\frac{N}{10}$ potassium sulphocyanate. This method also serves as a basis for the gravimetric analysis

SLAG CEMENTS.

Furnace slags are now being largely employed for the preparation of cements. From the results of a number of investigations, R. W. Mahon states that slags low in silica and high in lime and alumina are the best for this purpose. The best cements can be prepared from such slags by mixing them with lime in the proportion of 25 parts of slaked lime to 100 parts of slag, by weight A comparison of different cements show the tensile strains to be as follows:—English Portland cement, test piece kept in moist air, tensile strain 333. American natural rock cement kept in the same way 109. Slag cements (a) and (b) kept in moist air gave (a) 210, (b) 353 The tensile strain of (a) when kept in dry air was 375.

ESTIMATING CO_2 IN THE PRESENCE OF SULPHIDES

During the testing of certain building materials, experiments were made in this connection by A. Wolkowicz, who suggests the following method:—A Fresenius apparatus is used, into the decomposing bulb of which a weighed quantity of the substance to be tested is placed along with an excess of a 20% solution of copper chloride. On the addition of hydrochloric acid the carbonates and sulphides are decomposed, the H_2S liberated precipitating CuS, which is insoluble in the acid. The CO_2 is absorbed in soda lime tubes and weighed. The use of copper sulphate is not so convenient, as in the presence of alkaline earths insoluble sulphates are thrown down which interfere with the action of the hydrochloric acid. In this way the estimation of carbon dioxide in slag cement has been effected with very satisfactory results.

TESTING GALVANISERS' ACID FOR SULPHURIC ACID.

Commercial muriatic acid always contains a small percentage of sulphuric acid, which exerts a damaging influence in the process of galvanizing iron and steel articles. A percentage of 1·5 is sufficient to cause black spots upon the surface of the metal. These spots are directly due to the non-adhesion of zinc to the iron or steel. To ensure perfect galvanizing the SO_3 must be less than 1·5, the best working limit being about 1 per cent.

The following method will be found suitable upon works where large quantities of muriatic acid have to be examined. Samples are taken from every tenth vessel, 500 c.c. from the centre being a convenient quantity. Experience has shown that the ordinary gravimetric method takes far too long, whilst with the following volumetric system which has been devised by L. Rürup, 60 tests can be done in two or three hours, including the time for taking the samples. The results obtained by this method compared to the ordinary mode of analysis have always been the same, the largest difference never being more than 0·05 per cent. Such a difference is an error of no importance in a works test. For this analysis tubes similar to those used in the analysis of iron and steel are convenient. The calibration of the tubes is effected by taking 10 c.c. of pure hydrochloric acid, and mixing with varying percentages of sulphuric acid, viz., from 0·4, 0·6, 0·8, etc., up to 3 per cent. This mixture is heated up to boiling point, and washed with a minimum of water into the small tubes. The acid contents are nearly neutralized with concentrated ammonia, and hot barium chloride added, which throws down the sulphuric acid as barium sulphate. The tubes are then agitated for two to three minutes and the precipitates allowed to settle. The particles adhering to the sides make no appreciable difference to the result, and, if necessary, can be freed from the tube by means of a

ɔd, with an india-rubber tip. Gently tap the tube and note the of the precipitate. This height is then registered upon the tube diamond, and the percentage corresponding to it clearly written ırough practice, it is possible to get readings as close as 0·05 per y mental division of the spaces between the marks.

ɛst the samples, proceed as follows :—10 c.c. of the raw muriatic e neutralised with weak ammonia, brought to boiling point, and rred to one of the small graduated tubes. Add at once 5 c.c. hot ed barium chloride solution, put in the indiarubber stopper, shake minutes, which will effectively cause the precipitate to settle. ı few minutes, the precipitation is so far completed that the ; can be taken. This method is applicable to every large works a great number of tests have to be made. It will thus be seen all tests where the error must be less than 0·05 per cent. the method is inapplicable. In case of a dispute between buyer and it is, of course, requisite to carry out the test gravimetrically.

MANGANESE ESTIMATING APPARATUS.

ıg to the labour attached to the performance of Bunsen's well- method of estimating manganese dioxide in pyrolusite, Dr. C. ın employs the apparatus shown in our illustration. The tube filled with the potassium iodide solution by suction and cooled water circulating through the water jacket.

method of using this apparatus, which is made by D. Muencke, lin, need hardly be explained, as the illustration speaks for itself. be noticed that it obviates the difficulty of getting tight joints f tubes, and does away with the inconvenience of washing out ne.

: DISPOSAL OF THE SEWAGE OF THE METROPOLIS.—The first is of the annual working of the two stations, Barking and Cross- or the disposal of London's sewage has just been issued. During ear 67,583 million gallons of crude sewage have been received eated, and 2,021,000 tons of sludge of a moisture varying from to 91·68 per cent. were sent to sea ; or, in other words one ton of was extracted from each 32,000 gallons of crude sewage at Bark- nd from each 35,500 gallons at Crossness. It is stated that 5 tons of absolute dry solid matter have been removed from the Thames ; but since it is not possible to see or examine absolutely lid matter, except in very small fragments, this figure vastly under- tes the real nature of the case. The effluent produced at the ıtfalls is said to contain a considerable quantity of solid matter ɔension. Each sludge ship carries on an average 1,000 tons, and double voyages of about 100 miles each have been performed by et of five vessels. Working expenses and capital expenditure into account, the cost of disposing of London's sewage in the ear has been £159,784 or a total average cost for precipitation, rising, and conveyance to sea at the rate of £2. 7s. 3·42d. per ı gallons on the gross quantity of 67,583 million gallons of sewage ɛd and treated at the two outfalls at the rate of 18s. per ton for 7,345 tons of solid matter removed from the sewage.

NOTES ON WATER-GAS AND CARBURETTING GAS.

BY PROFESSOR BUNTE.

ALL the observations taken since the infancy of the industry are in agreement with the most minute tests taken by the greatest living authorities on the subject, and prove that 50 per cent. of the heating value of the coal is still being lost, even in the most technically worked out processes of water-gas manufacture. I have in collaboration with Harris, amply proved by repeated tests that one of the principal sources of loss which indeed has up to now not had the attention which it deserves bestowed upon it, is to be looked for in that stage where the undecomposed steam passes through the generator, and where it is allowed to fall to too low a temperature. The results are put out in the following table :—

Mean Temp.	Composition of Resulting Water Gas.			Steam.	Velocity of the Gas.
	H.	CO.	CO_2.	Decomposed. Undecomposed.	
0° C.	Vol. p.c.	Vol. p.c.	Vol. p.c.	Per cent Per cent.	1 pro. 1 sec
674	65·2	4·9	29·8	8·8 .. 91·2	0·9
758	65·2	7·8	27·0	25·3 .. 74·7	1·8
838	62·4	13·1	24·5	34·7 .. 65·3	3·66
848	61·9	15·1	22·9	41·0 .. 59·0	3·28
861	59·9	18·1	21·9	48·2 .. 51·8	5·3
954	53·3	39·3	6·8	70·2 .. 27·2	6·3
1010	48·8	49·7	1·5	94·0 .. 6·0	6 15
1060	50·7	48·0	1·3	93·0 .. 7·0	9·8
1125	50·9	48·5	0·6	99·4 .. 0·6	11·3

If losses can be prevented, which most certainly is possible, the production of water gas will become cheaper, and will become more generally adopted. In Germany we have observed in the last decade the development of an industry which is connected very closely with the production of gas for lighting purposes. That is the distillation of coke and the profitable working up of its bye-products. These latter consisted formerly of tar and ammonia, to which has now been added the direct separation of benzine out of coke gases, and since then such large quantities of this new product—benzine—have been put upon the market at so low a price, that it has been forced upon us that benzine is the natural agent for carburetting coal gas. The quantity produced at the present state of the industry is four thousand kilogrammes, which, based upon the proportions derived from my calculations, are sufficient for increasing the illuminating power of 800,000 cubic metres of gas, by one candle power. Now, if we consider that of the 15,000 coke ovens in operation in Germany, only twelve to fourteen hundred (that is not quite 10 per cent.) are fitted with the apparatus necessary for obtaining bye-products and that of the latter only a fraction is constructed with the view of separating the benzol from the distillation products, there can be no doubt that we may look for an immense increase in the production of benzol, and that for some considerable time to come we may not fear either a scarcity of this article nor any considerable rise in its price. Given the low price of benzine, we need not only confine our attention to the ordinary illuminating gas, but may advance a step farther. Notwithstanding the immense quantities of illuminating gas which are now produced, this industry has not seen its way to do away with the production in retorts, for the reason that a too high a temperature reacts prejudicially upon the illuminating power of the gas, and thus the methane, and especially the benzene, would in large distillation chambers be decomposed in passing through the outer layers of hot coke.

As a matter of fact the coke-gas only contains about half the percentage of benzine compared to illuminating gas. But as we possess in benzine such a cheap agent for the improvement of gas, we can be satisfied with a reduced illuminating power when we consider the advantages of a considerable cheapened mode of production in large ovens, and if we further consider that the introduction of a system of improved carburation, gives us a greater freedom in the choice of our coal, enabling us to use cheaper coal-producing gas of a lower illuminating power. Such an argument applies to the production of water-gas. In lieu of the water-gas we produce through distillation, a raw gas which is preferable in many respects to the water-gas, with a higher percentage of carbonic oxide, and also enables us to gain bye-products and adopt it all to the natural circumstances of the German industry. Indeed, under these conditions the German production of gas on a large scale becomes quite possible.

OBITUARY.—It is with regret that we have to record the death of Mr. Richard Evans, general secretary of the Consett Iron and Steel Works, who died last week at Consett, after a short illness.

THE INSTITUTION OF MINING AND METALLURGY.—The fifth ordinary meeting of the third session of this Institution was held last Wednesday in the lecture theatre of the Jermyn-street Geological Museum at 8 p m , when Mr. Garland replied to the discussion on his paper on "Nickel Mining in New Caledonia." Mr. J. B. Hannay also read a paper on "The Metallurgy of Lead."

ANSWERS TO CORRESPONDENTS.

G. L.—By letter.

H. S.—The change shall be made. We are obliged for your advice of same.

W. E. & T.—You will see we have been able to oblige you in this matter. We are glad to have been able to do so, as it is not often that we can in such matters.

P. S.—In any case our decision as to fitness will have to be final.

R. M. (Berlin).—It is safely to hand.

J. J. R.—We shall be glad to hear from you at any time now. Perhaps next week would be convenient

Labour.—No, not very well. There is more to be said either way, with the saying of which we shall no doubt have something to do.

ABOUT INCANDESCENT LAMPS.

In lecturing on glow or incandescent lamps recently, Professor J. A. Fleming said in all successful lamps of this type yet constructed the substance made incandescent has been carbon, it has been contained in high vacuum, the lamp itself has consisted of a glass vessel, and the current has been led through the glass by platinum wires. The carbon filament is prepared from parchmentized paper or cellulose, and when finished is as elastic as steel. As it becomes longer when heated, provision must be made to prevent it from breaking. The horseshoe form of filament allows expansion freely, but a straight filament is mounted on a spiral spring. The vacuum in the bulb is produced by means of mercury air pumps of various forms. Professor Fleming also described the arrangement of lamps in series and parallel, and explained the measurement of a lamp's constants, the current it consumes, the pressure of current or voltage it requires, the light it gives off, and the amount of energy it absorbs. He insisted on the necessity of a constant and uniform pressure if lamps were to have a long life. He then turned to the molecular physics of a lamp. Although a high vacuum, the space inside the bulb is by no means empty ; besides a very considerable number of molecules of air, it contains particles of carbon thrown off from the filament. These particles, which are the cause of the blackening of the glass often seen in lamps, are negatively electrified, as was shown by Edison. He placed a platinum plate in a lamp between the legs of the horseshoe filament and connected it through a galvanometer to the positive terminal. When a continuous current was passed through the lamp, the galvanometer was deflected, but if the connection was made to the negative terminal there was no deflection. The lecture concluded with some remarks on the use of incandescent lamps.

PHOTOMETRIC METHODS AND STANDARDS.

In the course of his Cantor lectures on "Photometry," Captain Abney recently laid stress on the fact of the luminosity of all flames being due to incandescent carbon. The different methods of photometry were described and illustrated. The lecturer after dismissing the standard candle test as imperfect, said he would limit himself to the consideration of three only of the secondary standards—namely, the acetate of amyl lamp of Dr. von Heffner Alteneck, the pentane lamp, and the method known as the grease-spot. In the acetate of amyl system, which he liked extremely, he showed that the variation in the compounds of amyl employed made very little difference, and this has been ably investigated by Dr. Siemens. The pentane lamp, a ten-candle lamp, worked out by Mr. Dibdin and Mr. Sykes, was a very permanent standard and also simple and easy to work. The great point in photometry was to have a light of the same quality throughout. An interesting description and demonstration of the grease-spot method was then given, the nature and preparation of the discs (including Dibden's improved disc) was explained, and the system of measurement with the standard light on one side and the light to be tested on the other was illustrated with the instruments themselves and by diagrams projected on the screen. The method of photometry devised by Professor Vernon Harcourt, one of our ablest experimenters in this branch, was next described, and also the radial photometer of Mr. Dibdin. Alluding incidentally to text-books on science, he said that it was a curious thing that they so very often repeated errors. The compilers rarely investigated for themselves, but repeated and perpetuated statements which were manifestly inaccurate.

The Imperial Institute Laboratory.—The sum of £1,000. has been placed by the Goldsmiths' Company at the disposal of the governing body of the Imperial Institute for fitting up and equipping its department of scientific and practical research, which is to deal with the investigation and practical valuation of new and little known natural products received from India and from the colonies composing the Empire.

Market Reports.

TAR AND AMMONIA PRODUCTS.

Tar products in general are practically without alteration, b both 90's and 50/90's being the only exception. The price o grades is easier, though 90's is still quoted at last week's figure. bolic acid, crude 60%, is still at 1s. 7d., and crystals, 40%, while solvent naphtha and crude remain stationary. Pitch has, appearances, ceased to decline, and anthracene is maintained at combination values.

Sulphate of ammonia keeps very weak with but little business Sales are virtually confined to spot parcels, which are taken up a prices. Orders are so inexplicably scarce, that it is thought by that a reaction will set in before long. Beckton quotation is £13. 7s. 6d. London outside makes are also worth £13. 7 Liverpool and Hull £13. 7s. 6d. At Leith there seems to tendency to increased weakness, and £13. 7s. 6d. to £13. 5s. is nearest value.

MISCELLANEOUS CHEMICAL MARKET.

In the alkali trade there is very little change to report in the po of any of the staple products. Bleaching powder is in fairly demand, both for home and export trade, at £7. 10s. softwoods makers' works, and £8. f.o.b. Chlorates are slightly easier in on the spot, at 7d. to 7¼d. for potash, and 8½d. to 8¾d. for For caustic soda there is nominally no change in quotations, and cu values, subject to usual variations, are as follow :—f.o.b. Tyne, £10. 7s. 6d.; f.o.b. Liverpool, 74%, £10. 2s. 6d.; 70%, £9. 2s 60%, £8. 2s. 6d.; cream, 60%, £7. 17s. 6d., 10-ton lots and upw The market for soda ash is less buoyant, but prices have undergo alteration, Leblanc ash being, f.o.b. in casks, 1d. per degree for makes, and ammonia alkali, 58%, £3. 2s. 6d. to £3. 5s. per ton, f.o.r. makers' works. Soda crystals flat. In all acetates value extremely low, and there is very little life in the market. Sulpha copper still in good request at £15. 15s. per ton, f.o.b. Nitr soda active on the spot at the advanced rates. Superphospha good demand, as usual for the season of the year. White pow arsenic scarce, and realising £14. 5s. to £14. 10s. according to b For carbolic acid, crystals and liquid, there is no improveme demand. Trade continues brisk in potash, caustic, and carbonate prices are firm. Miscellaneous smaller chemicals are, generally, discount.

REPORT ON MANURE MATERIAL.

There has been a good business doing throughout the wee immediate delivery, but the forward position has not received attention. The quotation for 75/80 % Florida phosphate rock re 8½d. per unit c.f. and i. to Continent and Baltic, and 8¼d. pe for cargoes to good U.K. ports. Shippers of Peace River and S Carolina River rocks still quote 7¾d., but this being a relatively high price, buyers hold aloof. There is a moderate business doi Continental descriptions at full prices.

For cargoes of River Plate bones, summer shipment, there is siderable inquiry, but buyers have not made up their minds t prices asked. The nearest value is £4. 13s. 9d. to £4. 15s. On Bombay bone meal has been selling at £5. 5s. per ton in retail to £5. 2s. 6d. in quantity, ex quay Liverpool. £5. would be acc for March steamer shipment, and £4. 17s. 6d. for April-May. Con grinding bones are inquired for, and are worth about £4. 10s. pe ex quay Liverpool.

Heavy deliveries of nitrate of soda, both on Continent and in U continue, and spot value has been advanced to 10s. 9d. per cwt quay Liverpool or f.o.r. Garston. The value of arrived cargo about 10s. 3d., but for anything not actually at port of call 10s cwt. would have to be taken.

There is nothing to report in miscellaneous material.

THE METAL MARKET.

LONDON, Wednesday.—Pig iron, easy : Scotch wa closed at 42s. 9½d., Middlesbrough 36s. cash, and hematite 44s. 1 Copper, steady : Chili bars, G.O.B.'s and G.M.B.'s, clos £40. 2s. 6d. to £40. 7s. 6d. cash, and £40. 13s. 9d. to £40. 18 three months. Tin, steady: Straits closed at £69. 10s. to cash, and £70. 7s. 6d. to £70. 10s. three months; Austr £70. 10s.; English ingots, £74. 10s. Lead, easier: Spanish, £9. 3 to £9. 2s. 6d.; English, £9. 5s. to £9. 7s. 6d. Silesian Sp ordinary, £15. 10s. Nickel, 1s. 8½d. Antimony, £35. Q silver : first hands, £5. 12s. 6d. ; second hands, £5. 11s. 6d. C *shares*, firm : Cape, 1⅜ to 1½; Copiapo, 1$\frac{11}{16}$ to 1$\frac{13}{16}$; Libiola,

Mason and Barry, 2⅝ to 2⅞; Rio Tinto, 15 5/16 to 15 5/16; , 4⅞ to 5⅛.

IVERPOOL OIL AND COLOUR MARKET.

WEDNESDAY.

S.—Palm oil is firm, though not very active. A fair business, r, has been done in Saltpond, Benin, and Bonny. Lagos is £21. 5s. spot, and £21. per ton for forward May delivery. as yet unchanged in price, but is very slow of sale. Linseed is ; good prices for prompt, Liverpool makes in export casks being 21s. 3d. to 21s. 6d. per cwt. Both the prospect and business vard, however, are not so favourable. Cottonseed is still firm, es for Liverpool refined remain at 20s. 9d. and 21s. 6d. per cording to quality. Castor oil is firm, but the demand is quiet. econds Calcutta is quoted 2⅜d., and steadily held for that First pressure French is quoted 2 3/16d. per lb. Tallow is more freely, and is steady in tone. Resin is unaltered in r all grades, and is fairly well inquired for. Spirits of turpentine ay the turn easier, at 22s. 6d. per cwt , after having ruled firm he week at 3d. dearer. Petroleum is quiet as far as regards , and prices remain at 4¼d. to 5½d. for American according to and 3⅝d. to 3¾d. per gallon for Russian refined.

OURS are steady without alteration in prices. : Oxfordshire, common, £10., medium, £12., best, £15.; hire, common, 40s.; medium, 50s., best, 60s.; Welsh, best, econds, 50s., and common, 18s.; Irish, Devonshire, 40s. to rench, J.C., 55s. to 60s.; M.C., 65s. to 67s. 6d. Umber : quiet; Devonshire, 50s. to 55s. White lead, and oxide unchanged. Venetian red, £6. 10s. to £10. Cobalt: d oxide, 9s. 9d.; black, 9s.; blue, 6s. Zaffres: No. 1, ; No. 2, 2s. 6d. Oxide of iron: Common, £6.; medium, finest, £20. Zinc oxide, £23. to £25.

TYNE CHEMICAL REPORT.

TUESDAY.

icals are quiet, though there has been an increased demand , and shipments generally are larger. Deliveries to the Baltic e now commencing. Prices are unaltered. Bleach, £7. 10s. caustic, £10. 10s. and £10. 15s.; 70%, £9.; sulphur . 6d. per ton. Soda crystals, £2. 1s. to £2. 2s. 6d. per ton eights locally.

ching Powder, softs, £7. 10s. per ton, nett; hards, £7. 15s. per ton, caustic soda, 76/77%, £10. 15s. per ton, nett; do., 70%, £9. , nett; recovered sulphur, 2 cwt. bags, £3. 17s. 6d. per ton, nett; sh, 48%, £3. 12s. 6d. per ton, nett; do., 52%, £3. 16s. 3d. , nett; do., 56%, £4. per ton, nett; alkali, 36%, £2. 15s. , nett; white alkali, 48%, £4. 10s. per ton, nett; do., 50%, £4. ton, nett; do., 52%, £5. 5s. per ton, nett; hyposulphite of -7 cwt. casks, £5. per ton, nett; do., 1 cwt. kegs, £5. 10s. , nett; silicate of soda, 75° Tw., £2. 17s. 6d. per ton, nett; 0° Tw., £3. 12s. 6d per ton, nett; do., 140° Tw., £4. n, nett; soda crystals, casks, £2. 2s. 6d. per ton, weight; do., 2 cwt. bags, £2. 2s. 6d. per ton, nett; of potash, 7½d. per lb., less 6%; pearl hardening, r ton, nett; pure white sulphate of alumina, £4. 2s. 6d. , nett; blanc fixe, £7. 10s. per ton, nett; chloride of barium, s. per ton, nett; carbonate of alumina, £28. 15s. per ton, luminate of soda, £33. 15s. per ton, nett; in 5 ton lots, £28. r ton, nett.

h Durham Salt is still firm and scarce at 10s. per ton, f.o.b.

s: There is still a fair demand, and some very considerable con- have recently been placed for North Country coals. Best mbrian steam, 10s. and 10s. 3d.; second qualities, 9s. and ; small steam, 4s. 9d. to 5s. per ton. Bunker coals plentiful : ened 7s., do. best screened 9s. 6d. and 9s. 9d. per ton. Gas s. 6d. and 7s. 9d. per ton. Coke firm, 14s. and 14s. 6d. per

WEST OF SCOTLAND CHEMICALS.

GLASGOW, TUESDAY.

condition of sulphate of ammonia has not improved, but rather increased weakness. There is almost a total absence of any f actual business, and quoted values would be even lower than e, were it not that makers and the few second-hand holders considerable belief in the immediate future of the market, and o give way beyond a certain mark. The article can be bought, , at £13. 10s., but it is only a portion of the selling section that g to do business at that low figure.

ineral oil and paraffins the dulness becomes more accentuated e opening out of the off season, but the old values are at least lly maintained. Business against the next consumptive period will not begin until after an interval of two or three months. An advance in American crude petroleum certificates is in favour of Scotch burning oil, but has to last long enough to affect the value of refined American imported before actual benefit is felt here.

Hardly any change in common chemicals, although chlorate of potash is reported weaker. The opening of the export season to the Continent is expected to stir up things a little.

Chief prices current are:—Soda crystals £2. to £2. 5s. nett, Tyne; soda ash 48/52° £3. 12s. 6d. to £3. 16s. 3d. nett, Tyne; white alkali 48/52° £4. 10s. to £5. 5s. nett, Tyne; alum in lump £5. 10s. nett, Glasgow; caustic soda, white, 74° £10. 5s., 70/72° £9. 2s. 6d., 60/62° £8. 2s. 6d., and cream 60/62° £7. 17s. 6d., all nett, Liverpool; bleaching powder £6. 12s. 6d. to £7. 10s., nett, Tyne; saltcake, 17s. 6d.; borax, English refined, £30. and boracic acid, £37. 10s. nett, Glasgow; bicarbonate of soda, 5-cwt. casks, £6. 10s., and 1 cwt. casks £6. 15s. nett, Liverpool; bichromate of potash, 4½d. nett, for Scotch and English deliveries (for export, 4¼d. nett, f.o.b. Glasgow); bichromate of soda, 3¾d. nett, for Scotch and English deliveries (for export, 3½d. nett, f.o.b. Glasgow); chlorate of potash, 7¼d. less 5%, Liverpool; nitrate of soda, 10s. 10½d.; sulphate of ammonia, prompt, £13. 10s. nett, f.o.b. Leith; salammoniac, first and second white, £39. and £37. nett, any port; sulphate of copper, £15. 10s., less 5% Liverpool; paraffin scale, hard 1 7/8d. soft 1 7/8d. to 2d. per lb.; paraffin wax 120° semi-refined 2⅜d. to 2½d.; paraffin spirit (naphtha), 3½d. to 4d. per gallon; paraffin oil (burning), standard No. 1 grade, 5d. at works, for Scotch buyers (English sales, ½d. to ¾d. lower); ditto (lubricating) 865° £3. 12s. 6d. to £3. 17s. 6d.; 885° £4. to £5., and 890/895° £5. to £6. Week's imports of raw sugar at Greenock were 8,100 bags and 5,438 baskets.

HULL PAINT, OIL, AND COLOUR REPORT.

TUESDAY.

OILS.—There is no appreciable alteration in the state of trade here since last week's report. During the week a steamer has arrived here from the United States bringing a cargo of 15,000 pails of lard, also many hundreds of barrels of crystallised glucose. Amongst the principal imports up to date compared with the same time a year ago have been:—Linseed, 129,971 qrs, against 70,478 qrs.; rape seed, 41,209 qrs., against 15,814 qrs.; cottonseed, 90,560 tons, against 95,637 tons; olive oil, 6,404 casks, against 3,571 casks; rape oil, 2,713 casks, against 2,577 casks; oilcakes, 8,049 tons, against 6,173 tons; tallow, 5,044 cwts., against 8,270 cwts.; bones, 2,596 tons, against 2,241 tons; turpentine, 4,300 barrels, against 3,374 barrels; Guano, 335 tons, against *nil*. Linseed Oil: After advancing about 5s. per ton, closes quiet at 19s. 1½d. naked spot; May-August offer at 18s. 10½d., and last four months at 18s. 3d.; boiled and refined ditto from £1. to £2. per ton extra. The export for the week has been 1,420 cwts. Refined cotton oil quiet at 18s. 9d. naked spot; May-August, 19s. Export of refined for the week has been 6,940 cwts. Rape oil continues in good demand, and without change. Turpentine, 22s. 9d. per cwt. Castor oil first pressure from 2¼d. per lb. Olive oil continues cheap. Cod oil from £17. to £19. per ton. Herring oil, £15. per ton. Sod oil for tanners, curriers, etc., from £16 per ton. Pale seal oil, £20. Brown wool grease, £8. per ton. Paraffin Molle, 20s. per cwt. Engine and cylinder oils from 1s. to 2s. per gallon.

CAKES.—Linseed cakes a quiet trade; 95% pure, £8. per ton; Russian, £7. 7s. 6d.; Polish, £7. 10s. Oil cakes, £6. 12s. 6d. to £6. 15s. Cotton cakes: A fair demand at steady prices; best makes, £4. 10s.; seconds, £4. 5s. to £4. 7s. 6d. Rape cakes: East India, £4. 10s.; Black Sea, £3. 12s. 6d. per ton. Round feed cakes, £6. 12s. 6d. per ton.

PAINT.—The situation is unchanged, goods being in good request. White lead in oil, £17. 10s. per ton; oxide zinc paint, £22. per ton; red lead, dry, £13. 10s. per ton; oxide of iron, dry, from £9. to £18. per ton; J.C. ochre 55s. to 60s. per ton, Derbyshire ochre from 65s. per ton, Cumberland ochre from 75s. per ton; lime blue, 16s. per cwt.; ready mixed paints, £26 per ton, packed in various sized tins; common black varnish, £5. 10s. per ton, in barrels, free; oak varnish from 5s. 6d. per gallon.

New Companies.

Blyth Patent Brick Company. CAPITAL £5,000., in shares of £1. each. This company has been formed to carry on the business of manufacturers of bricks and to trade as brick merchants.

Standard Pure Malt Vinegar Company, Limited. CAPITAL £5,000., in shares of £5. This company has been formed to carry on the business of distillers and manufacturers of vinegar.

North Dean Chemical Co., Ltd.—CAPITAL, £10,000., in shares of £10. each. This company has been formed to enter into an agreement with E. A. Brotherton to acquire and carry on the business of chemical manufacturers.

Hernu Peron and Co., Limited. Capital £100,000, in ordinary and preference shares of £1. each. This company has been formed to take over the business carried on by Hernu Peron and Co., of carriers and agents.

Thurmaston Brick and Tile Company, Limited. Capital £7,500., in shares of £5. each. This company has been formed to manufacture and deal in bricks, tiles, and drain pipes. The subscribers to the Memorandum are:—J. W. Stableford, The Poplars, Coalville, near Leicester; R. B. Barratt, The Grange, Newton Solney, lime merchant; J. Woolton, Coalville House, Coalville, ironfounder; E. E. N. Stokes, Truro, Cornwall, inspector; S. Stableford, The Poplars, Coalville, clerk; J. Brooks, Newton Solney, farmer; W H. Wootton, 2, Victoria-street, Loughborough, brassfounder.

H. Kershaw and Son, Limited. Capital £30,000, in shares of £50. This company has been formed to purchase and carry on the business of bleachers and dyers, now carried on at Salford, Lancashire. The subscribers to the Memorandum of Association are:—H. Kershaw, 22, Half Edge-lane, Eccles, bleacher; J. J. Kershaw, 4, Clarendon-crescent, Eccles, bleacher; A. Kershaw, 4, Clarendon-crescent, Eccles, married woman; G. Kershaw, 22, Half Edge-lane, Eccles, bleacher; A E. Hobson, 5, Swinburne-street, Derby, solicitor; Marie Hobson, 5, Swinburne-street, Derby, married woman; J. Coackley, 115, Hodge-lane, Salford, manager.

Gazette Notices.

BANKRUPTCY ACTS, 1883 and 1890.
Adjudication.

Groves, Leonard, Mark-lane, E.C., chemical agent.

The Patent List.

This list is compiled from Official sources in the Man Technical Laboratory, under the immediate supervisi George E. Davis and Alfred R. Davis, who report profes upon the value of Chemical Patents.

APPLICATIONS FOR ENGLISH LETTERS PATEN

Apparatus for Breaking and Bleaching Fibrous Materials. B. Ca and J P. Cornett. 6,521. April 2.
Improvements in the Manufacture of Paper Pulp. J. P. Cornett. April 2.
Apparatus for Distilling Sea Water and Other Liquids. H E. 6,504. April 2.
Obtaining Cyanides and Ferrocyanides. J. B. Readman. 6,621. A
New Process of Manufacturing Cakes of Soap. G. Derville. April 3.
Improvements in Gas Producer Furnaces. C. W. Pinkey 6 679.
Improvements in Receptacles for Storing Compressed Air or W Timmis 6 679. April 3.
Improvements in the Manufacture of Iron and Steel H. G. Rich 6,784. April 5.
Method and Apparatus for Smelting Aluminium Ores. C. A. 6,791. April 5.
Producing Oxybenzylic Alcohols and their Homologues. L. I 6,800. April 5
Improvements in Gas-Fired Boilers. J. E Dowson. 6,806. April
India-rubber Solution Injectors. W. Brown and G. Capewell. 6,858.
Improvements in Petroleum Lamps. O. Wallenberg. 6,883. April
Manufacture of Nickel and Cobalt. P. Manhes 6,914. April 6.
Improved Apparatus for Electrolytical Purposes. H. Guthrie. April 6.
Improvements in Making Potassium Cyanide. W. M. Mackey an Hutcheson. 6,925. April 7.
Kilns for Calcining Lime and Minerals. A. G Ogilvie. 6,953. A
Manufacture of Steel. C. de E. Llatas. 6,974. April 7.
Improved Treatment of Nickel and Cobalt Ores. P. Manhes. 6,984.

IMPORTS OF CHEMICAL PRODUCTS
AT
THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending April 7th.

Acetic Acid—

Holland,	44 pkgs.	A. & M. Zimmermann
,,	1	R. W. Greeff & Co.

Acetone—

Holland,	2 pkgs.	A. & M. Zimmermann

Alkali—

Germany,	2 cs.	L. & I. D. Jt. Co.
France,	110 c.	Arnati & Harrison

Alum—

Germany,	3 pkgs.	Skilbeck Brs.

Aluminium—

Belgium,	£380	Major & Field

Asbestos—

Italy,	£260	Lond Asbestos Co.
Holland,	27	Phillipps & Graves
U. States,	8	W. Byford
,,	15	Withy & Wyatt

Barytes—

Belgium,	61 pkgs.	Sawer, Sons & Co.
Germany,	19 cks.	S. H. Willoughby
,,	45	Blundell, Spence & Co.
Belgium,	42	W. Harrison & Co.
,,	242 pkgs.	A. Zumbeck & Co.

Boracic Acid—

Italy,	12 pkgs.	J. A. Malden
Holland,	38 cks	D. W. Greenhough & Son

Borate of Lime—

Chili,	375 pkgs	Schwan & Co.

Camphor—

Japan,	61 tbs	L. & I. D. Jt. Co
Belgium,	1 cs.	,,
Germany,	220 pkgs.	R. Warner & Co., Ltd.
Japan,	71 tbs.	City Coml. Wf., Ltd.
Hong Kong,	407	N. S. S. Co.

Caoutchouc—

France,	1 c.	Mory & Co.
P. E. Africa,	5	Prop. Bull Wf.
Savanilla,	22	,,
,,	75	Stiebel Brs.
,,	2	Hoare, Wilson & Co.
Portugal,	29	L. & I. D. Jt. Co.
Natal,	170	,,
E. Indies,	27	,,
,,	38	Ralli Brs.
,,	2	Adamson, Gilfillan & Co.
Zanzibar,	44	Wallace Bros.
U. States,	192	Williams, Torrey & Co.
Belgium.	7	Carter, Paterson & Co.

Castor Oil—

Italy,	20 cs.	B & N. Wvs. Co.
,,	5	B. G. Lennon & Co
,,	25	A. Laming & Co.
France,	50 cks.	J. T. Morton
,,	106 brls.	Lucas & Spencer's Wf. Ld.
,,	29	J. Greig
,,	6	Beresford & Co.
Germany,	10 cs.	F. Boehm
Belgium,	92	Fuerst Bros

Caustic Potash—

France,	25 drs.	Spies Brs. & Co.
,,	15	Petri Bros.
,,	20	Carey & Sons

Chemicals *(otherwise undescribed)*

Germany,	46 cs.	A. & M. Zimmermann
,,	19 pkgs.	T. H. Lee
,,	20	Craven & Co.
U. States,	15	R. Greening
,,	2 cs	E. Fellingham
Holland,	£6	Beresford & Co.
,,	10	F. Boehm
Chili,	15	Brown, Geveke & Co.
France,	20 pkgs.	Carey & Sons

Cream of Tartar—

Spain,	5 pkgs.	W. C. Bacon & Co.
France,	10	,,
,,	5	B. & F. Wf. Co.
,,	5	F. C. Devon & Co.
,,	19	,,
,,	4	E. W. Carling & Co.

Dextrine—

Germany,	350 pkgs.	M. D. Co.

Dyestuffs—

Annatto

Brisbane,	3 pkgs.	Eastwood & Holt
Denmark,	5	R. J. Fullwood & Co.
Ceylon,	10	Anderson, Weber & Smith

Aniline

France,	4 pkgs.	Hernu, Peron & Co.

Argols

Cape,	15 pkgs.	J. R. Thomson & Co.
France,	2	B. & F. Wf. Co.

Cochineal

Canaries,	9 pkgs.	Marshall & French
,,	9	Swanston & Co.

Extracts

France,	610 pkgs.	Boutcher, Mortimore
Denmark,	45 cks.	Bailey & Leetham
,,	6 pkgs.	R. J. Fullwood & Co.
,,	5	A. F. White & Co.
France,	20 cks.	Union L Co., Ltd.
U. States,	28 pkgs.	W. Burton & Sons

Fustic

Columbia,	15 t.	Hoare, Wilson & Co.

Gambier

E. Indies,	31,587 pkgs.	L. & I. D. Jt Co
,,	3,089	Adamson, Gilfillan & Co.
Germany,	356	S. Figgis & Co
E. Indies,	1,657	Beresford & Co.

Indigo

E. Indies,	19 chts	P. & O. Co.
,,	115	L. & I D. Jt. Co.
,,	1	F. W. Heilgers & Co.
,,	11	Parsons & Keith
,,	22	Stansbury & Co.
,,	49	Ernsthausen & Co.
,,	20	Wrightson & Son
,,	12	Forbes, Forbes & Co.
,,	9	H. J. Johnson & Sons
,,	26	Eales & Rutherford
,,	5	G. Steinthal & Co.
,,	49	Forbes, Forbes & Co.
,,	6	E. Theodore & Co.
,,	27	R. von Glehn & Sons
Greytown,	12	Cotesworth & Powell
,,	15	H. S. Lefevre & Co.
Germany,	1	N. & R. Collyer
Denmark,	1	Elkan & Co.

Myrabolams

E. Indies,	1,000 pkgs.	W. Shelcott
,,	1,108	J. Graves
,,	112	A. Smith
,,	1,346	L. & I. D. Jt. Co.
,,	341	A. Hagan
,,	700	Baxter & Hoare

Orchella

Ecuador,	175 pkgs.	Prop. Bull Wf.

Shumac

Italy,	100 pkgs.	Pickford & Co.
,,	500	J.
,,	500	W. J. Turn

Tanners' Bark

Natal,	11 t.	L. & I. D
Gibraltar,	14	A. & W.
Natal,	9	Dahmann, Walk

Turmeric

Cochin,	119 pkgs.	Prop.
E. Indies,	320	Ross &
,,	180	G. & H
,,	79	Clarke
,,	60	Hoare, Wilso
Cochin,	80	J. P. Alj
Hong Kong,	2	W. M. Smith

Valonia

A. Turkey,	25 t.	Lea
,,	50	A
,,	75	Boutcher, M
,,	74	A. & W.
,,	50	Hoare, Wils
,,	50	Brooksban

Farina—

Holland,	100 pkgs.	G.
,,	100	T.
Germany,	50	
,,	10	Crav
,,	50	J. Kn

Gamboge—

E. Indies,	24 cs.	R. & J. H

Glucose—

Germany,	225 pkgs.	525 c.	M
,,	13	18	Beresfo
,,	12	95	J. Kn
,,	200	200	L. N
,,	200	100	R
			So
,,	25	203	Pille
,,	200	200	J.
France,	100	100	J. Barb
U. States,	1,500	1,500	
,,	1,750	2,000	L. Su
,,	1,000	1,000	Pear
,,	1,200	1,200	
			Mor
,,	1,000	1,000	G.
,,	1,050	1,275	T.
,,	550	3,025	
			Chm

tates, 375 375 Trier, Meyer & Co.
2,100 2,100 Robinson, Sons & Co.
2,398 4,239 Beck & Pollitzer
1,997 1,997 Beresford & Co.
200 880 L. Norman & Co, Ltd

o—
en, 52 t. Anglo-Swedish Co
orial Earth—
iany, £38 W. Byford
13 T. H. Lee
e—
120 pkgs. A. Gibbs & Sons
Chloride—
nd, 6 pkgs J. Barber & Co
anese—
alia, 235 t. Harrold Bros.
re—
e, 19,434 t. J. Burnett & Sons
2,150 W. Montgomery & Co.
20 Findlay & Co.
ates, 13 C. A. & H. Nichols
lies, 200 A. Hunter & Co.
any, 415 F. W. Berk & Co, Ld.
1,600 Anglo-Cont G. Wks.
1,420 "
30 Un. Lgtge. Co, Ld.
l Alcohol—
ny, 10 cks. Elkan & Co.
ies, £150 Henderson Brs.
—
42 brls. W. Harrison & Co.
5 50 bgs. Maude, Victoria & Co.
d, 8 pkgs. Phillipps & Graves
78 cks. Taylor Brs.
n Wax—
tes, 1,269 brls. Anglo-Amer Oil Co.
200 H. Hill & Sons
ate Rock—
150 t. A. Hunter & Co.
ny, 104 Lond. Phos. Synd., Ld.
n, 425 Lawes Manure Co.
144 Miller & Johnson
250 Lawes Manure Co.
n, 8 cks. Poth, Hille & Co.
go—
49 cks. B. Gallaway
143 brls R. G. Hall & Co.
78 J. Thredder, Son & Co.
um Bicarbonate—
20 c A. & M Zimmermann
um Carbonate—
115 c. Petri Brs.
15 Spies Brs & Co.
um Cyanide—
5 pkgs. Petri Brs
um Permanganate—
1 pkge. Corbyn, Stacey & Co.
20 brls. Beresford & Co.
Stone—
2½ t. G W. Largen
5 A. B. Curtis & Co.
c Acid—
2 pkgs. J. Murdock & Co.
e—
630 pkgs. 1,484 bgs. Lucas & Spencer's Wf.
1,204 bgs. Ralli Brs.
1,244 C. Wimble & Co.
500 Anglo-Cont. G Wks.
50 cks. J. Hall & Son
Acetate—
46 pkgs. H. Lorenz
Sulphate—
65 pkgs. T. H. Lee
160 pkgs Prop. Scott's Wf.
120 Oswego Co
200 Beck & Pollitzer
2,390 Horne & Co.
30 Phillipps & Graves
220 G. Rahn & Co.
104 J Barber & Co.
98 Phillipps & Graves
90 Leach & Co.
80 Sawer, Sons & Co.
—
50 bls. Prps. Chmbln.'s Wf.
—
62 t. G. Boor & Co.
100 Johnson & Hooper

Italy, 25 F. C. Devon & Co.
S. Russia, 25 W. Balchin
Talc—
Italy, £40 Davies, Turner & Co.
Tallow and Stearine—
Germany, 20 cks. Blumann & Stern, Ld.
Tin Salts—
Germany, 3 pkgs. H. Lambert
Ultramarine—
Germany, 20 cs. Pillow, Jones & Co
Holland, 13 cs. Hernu, Peron & Co.
Belgium, 5 pkgs. W. Harrison & Co.
Varnish—
U States, 22 pkgs. Pinchin & Johnson
White Lead—
Belgium, 2 cks. J. L. Lyon & Co.
Germany, 119 W & A. Hampton
" 41 M. Ashby, Ltd.
" 37 Randall Brs
Belgium, 20 Colthurst & Harding
Wood Pulp—
Germany, 1,319 pkgs. W. Friedlander
" 102 Horton-Kirby Paper Works
" 940 J. Dickinson & Co.
" 112 H. Lambert
" 520 E J & W. Goldsmith
Canada, 9,378 "
Holland, 1,970 "
" 172 Henderson, Craig & Co.
" 548 Ekman Pulp Co.
Norway, 1,226 Moreton Cox Brs.
" 500 L. Knoblanch
" 300 C. Christophersen & Co.
" 40 M. G. Scrammes
Zinc Oxide—
Holland, 500 cks. Soundy & Sons
" 100 brls. M. Ashby, Ltd.
Germany, 50 "

LIVERPOOL.

Week ending April 5th.

Antimony—
Valparaiso, 165 sks. Vivian, Younger & Co.
Antimony Ore—
Valparaiso, 522 sks. H. R. Merton & Co
" 326 W. Tremayne
Barytes—
Rotterdam, 20 cks.
Antwerp, 9 100 bgs.
Bone Meal—
Calcutta, 2,237 bgs.
Karachi, 1,000
Borate of Lime—
Valparaiso, 304 sks.
Caoutchouc—
Valparaiso, 9 pkgs. J. H. Schroder & Co.
Castor Oil—
Calcutta, 500 cs. Ralli Brs.
Marseilles, 30 brls.
Colours—
Rotterdam, 7 crts. 22 cks.
Cottonseed Oil—
Baltimore, 200 brls.
N. York, 75
Cream of Tartar—
Barcelona, 10 cks.
Dried Blood—
Campana, 60 bgs.
Dyestuffs—
Cochineal
Gd. Canary, 68 bg. Kennedy & Moore
" 8 Kuhner, Henderson & Co.
Extracts
N. York, 60 brls. Boutcher, Bacon & Co.
Bordeaux, 100 cks.
Philadelphia, 40 150 bxs.
Baltimore, 5
Trieste, 309 Oak Extract Co, Ld.
Fustic
Tampico, 2,998 ps. Oetling & Co.
Indigo
Calcutta, 23 chts.
Logwood
Sinoe, 84 ps. L Hart & Co.
Madder
Smyrna, 16 bls
Shumac
Trieste, 50 bgs. N. W. Jackson
Turmeric
Calcutta, 250 bgs
Valonia
Smyrna, 1,219 bgs.
Farina—
N. York, 600 sks
Fiume, 100 bgs.
Antwerp, 10
Glucose—
N. York, 400 brls.
Newport News, 200
Philadelphia, 250
Infusorial Earth—
Hamburg, 28 bgs.
Iodine—
Valparaiso, 14 brls. W. & J Lockett
" 36 A Gibbs & Sons
" 58 Lautaro Nitrate Co., Ld.
" 43
Magnesite—
Euboea, 377 sks.
Mineral White—
Trieste, 20 bgs. F. Parisi
Paint—
Boston, 12 cs. Lejch & Co.
Paraffin Scale—
New York, 1,030 brls. Thompson & Bedford
Philadelphia, 508
Phosphate—
Antwerp, 300 t. 200 bgs.
Potash—
Hamburg, 15 cks.
Dunkirk, 20 dms. 1 ck.
Potash Salts—
Hamburg, 450 bgs.
Pyrites—
Huelva, 3,903 t. Matheson & Co.
Rosin—
Baltimore, 1,339 brls.
Rosin Oil—
New York, 50 brls. Bh. Insulated Wire Co.
Saltpetre—
Calcutta, 298 bgs.
Rotterdam, 25 cks
Karachi, 80 bgs.
Soap—
Philadelphia, 600 bxs. 63 crts.
Soapstone—
Trieste, 100 bgs. W. Harrison & Co
Sodium Nitrate—
Iquique, 11,946 bgs.
Starch—
New York, 150 bgs. 125 sks.
Newport News, 1,000 bgs.
Boston, 400 sks Jerome Marble Co.
Antwerp, 52 cs. J. T. Fletcher & Co.
" 140
Stearine—
Bordeaux, 51 cs.
Tallow—
Campana, 73 cks.
Philadelphia, 29 hhds.
Tartar—
Bordeaux, 33 cks.
Tartaric Acid—
Marseilles, 4 cks.
Waste Salt—
Dunkirk, 100 bgs.
White Lead—
Rotterdam, 52 cks.
Zinc Ashes—
New York, 5 cks.
Trieste, 2
Zinc Oxide—
Rotterdam, 60 cks.
Zinc Skimmings—
Boston, 29 brls. D. Morgan
New York, 46

MANCHESTER.

Week ending April 7th.

Albumen—
Hamburg, 3 cks.
Aniline Oil—
Rotterdam, 1 cby. Simpson, Howden, & Co.
Chrome Acetos—
Rotterdam, 10 cks. Simpson, Howden, & Co
Colours—
Rotterdam, 2 pkgs. 1 cs. 1 ck.
" 3 bxs. 11 cks. 58 brls. Simpson, Howden, & Co.
Antwerp 5
Treport, 10 1 cs.
Copperas—
Hamburg, 30 cks.
Dyestuffs—
Alizarine
Rotterdam, 2 brls. 27 cks. Simpson, Howden, & Co.
Annatto
Bordeaux. 15 cks. J. & P. Hutchinson
Farina—
Rotterdam, 1,000 bgs.
" 1,500 Simpson, Howden, & Co.
Hamburg, 96
Glucose—
Rotterdam, 4 cks
Limestone—
Antwerp, 2 cks.
Nitrate—
Rotterdam, 6 cks.
Pitch—
Rotterdam 93 cks Simpson, Howden, & Co.
Potash—
Hamburg, 63 cks.
Treport, 1
Potassium Prussiate—
Rotterdam, 4 cks Simpson, Howden, & Co.
Starch—
Rotterdam, 286 cs.
Antwerp, 242
Hamburg, 558
Tartar—
Bordeaux, 1 ck. J. & P. Hutchinson
Tartar Emetic—
Hamburg, 2 cks.
Tartaric Acid—
Rotterdam, 12 cks.
Tin Perchloride—
Antwerp, 2 cks.
Waste Salt—
Hamburg, qty.
Zinc Oxide—
Rotterdam, 1 brl. Simpson, Howden, & Co.
Zinc Sulphate—
Rotterdam, 5 brls. Simpson, Howden, & Co.

HULL.

Week ending April 7th.

Acetic Acid—
Rotterdam, 20 bkts. Hutchinson & Son
Acid—
Leghorn, 38 cks. Wilson, Sons, & Co., Ld.
Bari, 56 "
Hamburg, 5 "
Albumen—
Reval, 70 cs.
Hamburg, 35 cks. Wilson, Sons, & Co., Ltd.
Asbestos—
Leghorn, 9 pks Wilson Sons, & Co., Ltd.
Barytes—
Bremen, 46 cks. Tudor & Sons
Rotterdam, 22 Hutchinson & Son
Camphor—
Hamburg, 1 ck
Castor Oil—
Leghorn, 5 cs. Wilson, Sons, & Co, Ld.
Genoa, 71 pks. "
Trieste, 20 cs. "
Chemicals (*otherwise undescribed*)
Naples, 16 cks. Wilson, Sons, & Co., Ld
Rotterdam, 3 W. & C. L. Ringrose
Hamburg, 4 Wilson, Sons, & Co., Ltd.
Dunkirk, 20 "
Antwerp, 163 pks. "
Danzig, 1 pkge. W. & C. L. Ringrose
Hamburg, 1 ck.

Colours—
Rotterdam, 19 cks 2 cs. 3 pks. W. & C. L. Ringrose
" 7 13 cs Hutchinson & Son
Flushing, 40 6 "
Bremen, 3 Veltmann & Co.
Hamburg, 2 J. & T. Seddon
Dunkirk, 4 Wilson, Sons, & Co., Ld.
Danzig, 5 pks. "

Cottonseed Oil—
Rotterdam, 1 brl. Hutchinson & Son

Dyestuffs—
Alizarine
Rotterdam, 5 cks. W. & C. L. Ringrose
Madder
Rotterdam, 3 cs. 6 cks. Hutchinson & Son
Shumac
Trieste, 40 bls. Wilson, Sons, & Co., Ld.
Palermo, 520 bgs. Wilson, Sons, & Co., Ld.
" 450
Valonia
Smyrna, 156 t.

Farina—
Amsterdam, 20 bgs W. & C. L. Ringrose
Stettin, 1,048 Wilson, Sons, & Co., Ld.
" 200
Antwerp, 50 Bailey & Leetham
Ghent, 160 cs. Wilson, Sons, & Co., Ld.
Hamburg, 75 bgs. "
" 25

Glucose—
New York, 200 brls

Ochre—
Rouen, 48 cks.
Marseilles, 5 Wilson, Sons, & Co., Ld.
" 5

Lime—
New York, 446 bgs Wilson, Sons, & Co., Ltd.

Paint—
Genoa, 29 brls. Wilson, Sons, & Co., Ld.
Philadelphia, 35
New York, 50 cs Wilson, Sons, & Co., Ltd.

Paraffin Wax—
New York, 273 brls. Wilson, Sons, & Co., Ld.

Phosphate—
Ghent, 808 bgs. Wilson, Sons, & Co., Ld.
" 1,200 203 t.

Pitch—
Hamburg. 32 brls.

Pumice Stone—
Leghorn, 82 bgs. Wilson, Sons, & Co., Ld.

Salt—
Hamburg, 808 bgs.

Saltpetre—
Rotterdam, 135 bgs. Wilson, Sons, & Co., Ld.
Hamburg, 23 kgs.
" 5 cks. Lofthouse & Saltmer

Soda—
Antwerp, 100 bgs. Wilson, Sons, & Co., Ltd.

Starch—
New York, 250 bgs.
Bremen, 2,521 cs. Veltmann & Co.
Rotterdam, 40 Hutchinson & Son

Stearine—
Rotterdam, 25 brls. Wilson Sons, & Co., Ld.
Antwerp, 30 bgs. "

Sulphur—
Catania, 1,039 pks. Wilson, Sons, & Co., Ld.
" 275

Tannic Acid—
Hamburg, 8 cks. Wilson, Sons, & Co., Ld.

Tar—
Rotterdam, 4 brls. Hutchinson & Son
Amsterdam, 2 Sissons Bros. & Co.
Danzig, 23 cks. Wilson, Sons, & Co., Ld.

Tartaric Acid—
Rotterdam, 1 ck. Hutchinson & Son

Varnish—
New York, 4 brls. 11 pks. Wilson, Sons, & Co., Ld.

Waste Salt—
Hamburg, 1,895 bgs. Bailey & Leetham

White Lead—
Antwerp, 45 cks. Bailey & Leetham

Wood Pulp—
Hango, 200 bls. J. Good & Sons

Zinc Oxide—
Rotterdam, 50 cks. Hutchinson & Son

GLASGOW.

Week ending April 12th.

Acetate of Lime—
New York, 394 bgs.

Aniline—
Rotterdam, 5 cks. 13 cs.
Amsterdam, 4

Arachide Oil—
Rotterdam, 6 cks.

Barytes—
Rotterdam, 5 pkgs.

Castor Oil—
Antwerp, 87 cks.

Chemicals (*otherwise undescribed*)
Hamburg, 10 cs.
Rotterdam, 2 10 brls.

Colours—
Hamburg, 54 cks.
Rotterdam, 39 pkgs.

Dyestuffs—
Alizarine
Rotterdam, 67 cks 2 cs. 166 pkgs.
Extracts
Rouen, 98 cs. 9 cks.
Antwerp, 26 brls.
Baltimore, 10 J. Dawson & Co.
" 5 bxs. M'Arthur, Scott, & Co.
" 1
Indigo
Calcutta, 52 chts.

Farina—
Hamburg, 750 bgs.
Delfszyhl, 50

Fluor Chrome—
Rotterdam, 2 bxs. J. Rankine & Son

Glucose—
New York, 150 brls.

Gypsum—
Rouen, 380 t.

Ochre—
Rouen, 5 cks.

Potash—
Rotterdam, 19 cks.

Pyrites—
Huelva, 1,243 t. Thomas Cowan

Rosin—
New York, 1,101 brls.

Saltpetre—
Hamburg, 23 cks. 100 bgs.
Calcutta, 1 bx.

Soap—
New York 350 brls.

Sodium Acetate—
Rouen, 4 cks. 1 cs.

Sodium Nitrate—
Pisagua, 1,168 t. Thomson, Aikman & Co.

Starch—
New York, 200 sks.
Boston, 400
Baltimore, 1,000 bgs.

Sulphur—
Girgenti, 21,000 c. T. Lawrie

Tartar—
Bordeaux, 22 cks. 9 bgs.
Oporto, 7

Tin Oxide—
Rotterdam, 2 cks.

Ultramarine—
Rotterdam, 5 cs. J. Rankine & Son

Waste Salt—
Hamburg, 265 t. 600 bgs.

Wood Pulp—
Oporto, 500 bls.
Christiania, 296
Aalesund, 1,500

Zinc Ashes—
Antwerp, 8 cks.

Zinc Oxide—
Antwerp, 50 cks.
Rotterdam, 15

TYNE.

Week ending April 7th.

Alum Earth—
Hamburg, 18 cks, Tyne S. S. Co.

Aluminium—
Antwerp, 1 cs. Tyne S. S. Co.

Barytes—
Antwerp, 237 cks. Tyne S. S. Co.
Rotterdam, 20 254 bgs. "

Colours—
Rotterdam, 4 cs. 1 ck. 12 brls. Tyne S. S. Co.

Glucose—
New York, 50 brls.

Limestone—
Antwerp, 6 crts. 1 cs. Tyne S. S. Co.

Paint—
Hamburg, 44 cks. Tyne S. S. Co.

Potash—
Rotterdam, 4 cks. Tyne S. S. Co.

Saltpetre—
Hamburg, 3 cks. Tyne S. S. Co.

Starch—
Antwerp, 56 cs. Tyne S. S. Co.
Rotterdam, 24 "

Stearine—
Antwerp, 13 bgs. Tyne S. S. Co.

Sulphur—
Gothenburg, 1 bg.

Sulphur Ore—
Memel, 670 t. Bede Metal Co.

Tallow—
New York, 85 pkgs.

Waste Salt—
Harburg, 250 t.

White Lead—
Rotterdam, 3 cks. Tyne S. S. Co.

GOOLE.

Week ending April 4th.

Antimony—
Boulogne, 1 ck.

Caoutchouc—
Boulogne, 8 cs. 7 bls.

Dyestuffs—
Alizarine
Rotterdam, 7 brls.
Madder
Rotterdam, 5 brls. 1 bx.

Dyestuffs (*otherwise undescribed*)
Boulogne, 8 cks. 12 cs.

Farina—
Hamburg, 1,150 bgs.

Glucose—
Calais, 100 bgs.
Dunkirk, 100

Lead Acetate—
Rotterdam, 15 cks.

Potash—
Calais, 11 dms.
Dunkirk, 18 1 ck.

Potassium Chloride—
Rotterdam, 30 cks.

Saltpetre—
Rotterdam, 185 bgs.
Hamburg, 2 cks.

Soda—
Rotterdam, 29 brls.

Waste Salt—
Hamburg, 522 t. 950 bgs.

GRIMSBY.

Week ending April 7th.

Chemicals (*otherwise undescribed*)
Hamburg, 30 cks. 8 pkgs.

Dyestuffs (*otherwise undescribed*)
Dieppe, 6 cks.

Farina—
Hamburg, 40 bgs.

Kainit—
Hamburg, 300 bgs.

EXPORTS OF CHEMICAL PRODUCTS
OF
THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LO

Week *11th.*

Alkali—
Rio d 27 t. 17 c. £120

Alu
Salonica, 3 t. 15 c. £21

Ammonia (Liquid)—
Brisbane, 48 cs. £96
ville, 48 96
ne, 4 c. 3
own 27 41

Ammonia Salts—
Philadelphia, 5 t. 15 c. £120

Ammonium Carbonate—
Paris, 6 t. 7 c. £216

Ammonium Chloride—
Mogador 4 c. £7
Antwerp. 2 t. 4 73
Gothenburg, 1 43

Ammonium Sulphate—
Jamaica, 3 t 4 c. £47
Valencia, 65 910
Ostend, 20 262
Amsterdam, 50 700
Hamburg, 44 605

Benzoic Acid—
Philadelphia, 10 cs. £67

Borax—
Algoa Bay, 4 cs. £20

Carbolic Acid—
Algoa Bay, 3 cs. £15
Rotterdam, 40 cks. 262
Genoa, 10 cs. 944
Cologne, 40 dms. 266
Hamburg, 80 cks. 464
Singapore, 11 c. 20

Carbon Bisulphide—
Philadelphia, 26 dms. £102

Caustic Soda—
Hobart, 4 t. £51
E. London, 4 c. 6
Dunedin, 10 111
Algoa Bay, 10 10 112
Adelaide, 10 8
Delagoa Bay, 1 2 11
Natal, 1 1 30

Chemicals (*otherwise undescribed*)
New York, 18 cks. £265
Malta, 3 c. 10
Melbourne, 2 1 cs. 24
E. London, 5 13
Canterbury, 5 pkgs. 13
Brisbane, 2 kgs. 3 16

Acid—
urg, 2 t. 2 cks. £414
nagen, 5 c. 37
ne, 1 8
ls, 15 111
a, 3 cs. 24
s, 5 38
10 77
3 kgs. 23
don, 1 cs. 7
o, 1 7

roducts—
arine
rg, 2 kgs. £10
5 cks. 75
ine Dyes
hai, 30 cs. £189
1 6
arne, 1 22
'ork, 43 cks. 260
ta, 1 136
1 kg. 13
ine Oil
rk, 10 dms. £320
hracene
dam, 61 cs. £303
zol
dam, 20 pns. £153
zen, 39 dms. 339
l Tar Dyes
ta, 1 cs. £38
bane
dam, 21 dms. £30
hthalene
illes, 22 dms. £59
urg, 352 cks. £404
eport, 1 50 bgs. 34
'ork, 180 246
6 35
amin Wax
and, 4 tks. £180
25 bgs. 52
h
rt, 60 pkgs. £6
1,328 t. 2,400
ide, 32 16
irk, 1,749 2,356
rp, 300 412
idine Bases
rdam, 2 dms. £48
i, 29 brls. £20
rt, 30 dms. 5
n, 750 cks. 320
hn's, N'fd, 57 pkgs. 26
ne, 7 brls. 6
Oil
, 9 dms. £75
borg, 1,000 brls. 545
10 cks. 25
uol
rdam, 18 pns. 48 runs. £362
Products (*otherwise undes.*)
ne, 25 dms. £6
r Sulphate—
e, 5 t. 1 c. £70
e, 5 1 70
n, 54 14 770
sberg, 4 19 74
aux, 70 1,120
rn, 11 160
a, 53 4 810
mo, 7 15 120
a, 10 3 150
g, 8 3 120
z, 13 10
n of Tartar—
ide, 1 t. 5 c. £82
ane, 1 92
ourne. 3 5 212
sville, 5 20
Bay, 4 17
fectants—
dad, 18 c. £25
ica, 31 pkgs. 15
pore, 2 dms. 15 20
le Janeiro, 5 cs. 14
Bay, 54 26
Town, 100 cks. 45
orn, 22 25
tta, 105 200 dms. 102
o—
n, 20 t. £200
ochloric Acid—
ghai, 9 c. £52
Sulphate—
er, 2 t. 2 c. £8
re—
lia, 150 t. £1,500
ncia, 150 1,500
leloupe, 98 11 c. 1,000
erara, 5 60
ada, 1 7 14

Madeira, 84 1 785
Limon, 3 26
Gothenburg, 272 18 763
Nakskov, 517 5 1,930
Stettin, 19 18 75

Nitric Acid—
Brisbane, 5 cs. £9

Phosphorus—
Hobart, 5 cs. £50
Adelaide, 5 c. 50
Halifax, 6 66

Potassium Chlorate—
Algoa Bay, 2 cks. £7
Bilbao, 1 cs. 15
Odessa, 1 t. 67
Uddevalla, 3 190

Potassium Cyanide—
Delagoa Bay, 3 c. £17
Adelaide. 25 cs. 366
Townsville, 1 8

Salicylic Acid—
Delagoa Bay, 2 cs. £28

Saltcake—
Antwerp, 140 t. £245

Saltpetre—
Rio de Janeiro, 4 t. 10 c. £104
Bahia, 3 8 76
Portland, 2 48
Melbourne, 2 10 55
Hamburg, 1 21

Sheep Dip—
Leghorn, 15 dms. £20

Soda—
Algoa Bay, 1 t. 13 c. £4

Soda Alkali—
Pt. Said, 1 t. 4 c. £8

Soda Crystals—
E. London, 13 c. £3

Sodium Acetate—
Melbourne, 1 t. 2 c. £16

Sodium Bicarbonate—
Hobart, 15 c. £12
Demerara, 15 6
Brisbane, 1 t. 8

Sodium Carbonate—
Natal, 3 t. £20

Sulphur—
Cape Town, 5 t. 25 kgs. £129

Sulphuric Acid—
Singapore, 8 c. £7
Colombo, 20 cs. 17

Tartaric Acid—
Sydney, 1 t. £95
M. Video, 2 c. 10
Adelaide, 13 61
Melbourne, 5 25
Brisbane, 2 10
Galatz, 2 10

Tartar Salts—
B. Ayres, 7 c. £7

LIVERPOOL.

Week ending April 11th.

Acetic Acid—
Ceara, 1 t. 3 c. 1 q. £30

Albumen—
Vera Cruz, 12 c. £25

Alum—
M. Video, 1 t. 10 c. £7
Portland, Or., 21 10 119
Sydney, 1 6
Santos, 4 18 24
Constantinople, 1 7 10
Bourgas, 3 15 26
Boston, 8 10 3 q. 44
Melbourne, 1 6
Lisbon, 2 4 2 12
Seville, 3 13 18

Ammonia (Liquid)—
Cadiz, 1 t. 3 c. £32

Ammonium Carbonate—
Marseilles, 10 c. 3 q. £18
St. Petersburg, 3 t. 6 117

Ammonium Chloride—
Genoa, 1 t. 13 c. 1 q. £40
Smyrna, 16 1 26
Constantinople, 11 10
Alexandria, 1 35
Piræus, 2 4
Syra, 8 15

Ammonium Sulphate—
Malaga, 1 t. £15
Las Palmas, 2 28
Samarang, 62 15 c. 2 q. 835
Valencia, 220 10 1 3,026
Alicante, 30 10 370
East St. Louis, 50 675
Gd. Canary 5 71
St. John's, N'fd., 19 14
Canada. 1 15
Newport News, 100 16 2 1,515

Antimony—
Montreal, 5 cks.
Shanghai, 3
Vera Cruz, 2

Asbestos—
Akassa, 1 bl.

Barium Chlorate—
Rotterdam, 5 c. £24
Hamburg, 6 27

Bleaching Powder—
Baltimore, 249 cks.
Boston, 707
Calcutta, 110 cs.
Chicago, Ill., 50 bxs. 100 brls.
Havana, 40
New York, 658
Norrkoping, 55
Philadelphia, 34
Rouen, 14
Windsor Mills, 38
Newport News, 42
Piræus, 5
Rotterdam, 14

Bone Ash—
Barbadoes, 51 t. £171

Boracic Acid—
Antwerp, 2 t. 15 c. £83
Yokohama, 2 75
Seville, 1 2 1 q. 25

Borax—
Konigsberg, 8 c. 2 q. £11
Algoa Bay, 5 t. 135
Seville, 2 20 1 65
St. Nazaire, 5 6
Antwerp, 5 4 160
Sydney, 10 3 16
Adelaide, 5 2 9
Bremen, 10 3 14
Stockholm, 1 9 3 47
Lambusart, 5 6 144
Hamburg, 12 16

Calcium Chloride—
Bombay, 3 t. 12 c. £7

Carbolic Acid—
Bilbao, 13 c. 1 q. £27
Algiers, 1 t. 19 1 40
Hamburg, 18 888
Baltimore, 8 cs 50
Rotterdam, 11 11 567
Genoa, 1 15 2 88
New York, 1 2 1 75

Castor Oil—
Elmina, 2 cs.

Caustic Potash—
Antwerp, 2 t. 2 c £60

Caustic Soda—
Adelaide, 60 dms.
Antwerp, 34
Calcutta, 173
Cape Town, 30
Carril. 6
Catania, 50
Ceara, 40
Chicago, Ill., 699 50 bxs.
Coquimbo, 15
Fiume, 255
Galatz, 60
Genoa, 398
Hiogo, 100
Kobe, 4
Malta, 10
Messina, 66
Milwaukee, 300
Naples, 50
New York, 550
Odessa, 110
Oporto, 56
Piræus, 10
Puerto Cabello, 30
Rio de Janeiro, 50
Rosario, 20
Rotterdam, 220 18 cks.
San Francisco, 50
Sourabaya, 40
Sydney, 40
Tampico, 30
Valparaiso, 60
Algiers, 100
Alicante, 30
Baltimore, 720
Barcelona, 100 27 brls.
Boston, 175 50
Bremen, 10
Callao, 90
Cartagena, Sp., 10
Charlotte Town, 5 pkgs.
Havana, 100
Hong Kong, 36
Lisbon, 85
Malaga, 10 10
Manila. 100
Mauritius, 30
Melbourne, 42
M. Video, 50
Newport News, 100
Rangoon, 14
RioGr'ndedoSul, 30
Santos, 50
Seville, 13
Smyrna, 25
Tarragona, 20
Valencia, 30

Chemicals (*otherwise undescribed*)
Genoa, 1 t. 13 c. £60
Stockholm, 10 19
Dunkirk, 5 2 q. 10
Larnaca, 10 1 18
Philadelphia, 12 19 325

China Clay—
Bombay, 157 t. 5 c.
Boston, 557
Calcutta, 30
Piræus 15 3
Canada, 300

Chromium Acetate—
Naples, 1 t. 1 c. £49

Coal Products—
Alizarine
Rio de Janeiro, 1 kg.
Aniline Colours
Piræus, 1 cs.
Rabat, 1
Rio de Janeiro, 1
Canada, 6 pkgs.
Aniline Dyes
New York. 7 cs.
Aniline Oil
Genoa, 8 dms. 3 tins.
Aniline Salts
Piræus, 3 t. 2 c. £175
New York. 2 1 96
Rio de Janeiro 2 cs.
Genoa, 5 cks.
Syra, 1
Pitch
Antwerp, 976 t.
Cette, 876
Coquimbo, 15 brls.
Spezia, 900 t.
Tar
Harbor Grace, 12 brls.
Sette Cama, 4
Akassa, 15
Canada, 6 cks.
Tar Oil
Stettin, 26 dms.

Cobalt Salts—
Rotterdam, 4 c. £110

Copperas—
Smyrna, 7 t. £12
San Francisco, 72 17 c. 106

Copper Sulphate—
Rio de Janeiro, 5 c. £6
Genoa, 84 t. 3 1,415
Lisbon 10 2 3 q. 144
Oporto, 18 cks. 15 2 3 301
Smyrna, 19 3 15
Venice. 111 8 1,655
Naples. 4 16 3 75
Brindisi, 4 12 3 71
Leghorn, 48 12 748
Bordeaux. 191 18 3 2,908
Constantinople, 18 2 14
Trieste, 29 1 2 438
Piræus, 2 3 30
Cette, 20 2 3 302
Gothenburg, 2 10 36
Seville, 2 4 34
Nantes, 37 1 540
St. John's, 3 3 46

Cream of Tartar—
Halifax. N.S., £103

Guano—
Madras, 10 t. 1 c. £105

Iron Sulphate—
Caldera, 6 t. 10 c. £28

Lime—
Cabenda, 5 t.
Monrovia, 12

Litharge—
Oporto, 12 cks.
Philadelphia. 24

Magnesium Carbonate—
Paris, 14 c. 2 q. £15

Magnesium Sulphate—
Puerto Cabello, 10 cks. 100 cs.
Rio de Janeiro, 25 brls.

Manure—
Antwerp, 5 t. 7 c. 1 q. £40
Valencia, 85 17 1 198
Hamburg, 14 2 69
Canada, 17 50
Cullera, 200 530

Metallic Sodium—
Rotterdam, 4 t 3 c. 3q. £984

Muriatic Acid—
Rio de Janeiro, 1 cs £10

Nitric Acid—
Rio de Janeiro, 1 cs. £10

Oxalic Acid—
Barcelona, 10 c £15
Syra, 5 cks. 43

Paint—
Genoa, 15 kgs. 1 cs
Harbor Grace, 104 2 cks.
Landana, 30
Malta, 4 bxs. 38 9 12
Old Calabar, 2 2
St. Croix, W.I., 1 1
Akassa, 4 dms.
Amsterdam, 5 40
Bilbao, 30
Bonny, 1
B. Ayres, 10
Cape Town, 9
Cardenas, 2
Durban, 5
Frontera, 9
Hong Kong, 128
Lisbon, 5
Para, 16
Pernambuco, 10
Santander, 14
Valparaiso, 2
Vera Cruz, 3

Paint and Varnish—
St. John's, N'fd, qty.

Painters' Colours—
Accra. 6 cks.
Antwerp, 16
Assinee, 1
Axim, 20 kgs.
Bahia. 100
Bonny, 6
Boston, 1 bx.
B. Ayres, 75 cls. 10 cs.
Galatz. 50
Konigsberg, 10
Marseilles, 5 25
Matanzas, 3 brls
Mauritius, 410
M. Video, 40
Naples, 10
New York, 8 6
Para, 17 tcs. 92 1 17
Penang, 250
Pernambuco, 29 330
Santiago de Cuba, 18
Sourabaya, 17
Summerside, 2
Valparaiso, 2
Calcutta, 3 pkgs.
Callao, 17
Cardenas, 1 tce.
Guantanamo, 2
Guayaquil. 20
Havana. 10
Portland, Or., 10 10
Rio de Janeiro, 6 dms.
Singapore, 160

Paraffin Wax—
Piræus, 11 cs.
Pernambuco, 10

Phosphate of Lime—
New York, 11 c. £16

Phosphorus—
Shanghai, 30 cs. £300
Yokohama, 15 175
Kobe, 1 13
Puebla, 6 66
Vera Cruz, 12 150
San Luis, Potosi, 4 40

Potash—
Antwerp, 1 t. 1 c. 1 q. £27

Potassium Bichromate—
Rio de Janeiro, 7 c. 1 q. £16
Barcelona, 1 t. 2 47
Rosario, 8 1 15
Seville, 10 22

Potassium Carbonate—
Chicago, 1 t. 7 c. £26

Potassium Chlorate—
Hamburg, 4 t. 15 c. £283
Hiogo, 25 1,462
Palermo, 10 30
Philadelphia, 6 5 393
Reval, 5 10 339
San Luis, Potosi, 4 13
[illegible]tersburg. 5 318
[illegible]n, 2 124
Rotterdam, 1 6 83
Copenhagen, 2 10 146
Naples, 1 5 76
New York. 25 1,434
Gothenburg, 10 30
Malmo, 3 168
Boston, 5 318
Yokohama, 2 10 158

Potassium Sulphate—
Malaga, 1 t. £15
Canada, 1 11

Rosin—
Coquimbo, 20 brls

Salt—
Abonnema, 20 t. 2 c.
Antwerp 290 2
Bonny, 57 4
Boston, 330
Buguma. 50
Calcutta. 5,482
C. C. Castle, 70
Ghent, 120
Kansas City. 65
Landana, 23 4
Loango. 13 1
Melbourne, 50
Miramichi, 640
Newcastle, 345
Neufahwaggen, 260
N Orleans, 100
Old Calabar, 19
Opobo. 95
Quebec, 599
Rangoon, 846
St John's, N B, 598
Salt Pond, 15
Savannah, 300
Trinidad, 43
Ukaka, 18 15
Victoria, W C.A. 21 8
Akassa, 500
Ambriz, 6
Boma, 8 18
B. Ayres, 25
Cameroons 30
Cape Town, 1 2
Charlotte Town 150
Gr. Bassam, 5
Halifax, 69 2
Havre, 1 1
Lagos, 200 17
Mussera, 6 14
Newport News, 80
Valparaiso, 7 3
Winnebah, 7
Yokohama, 2 3

Saltcake—
Baltimore, 190 t 14 c. £253
Antwerp, 299 14 299
Boston, 2 19 5

Saltpetre—
Para, 3 t. £71
Bahia. 10 c. 13
Manaos 10 12

Sheep Dip—
Galveston, 4 t. 11 c. 1 q. £200

Soap—
Accra, 294 bxs
Addah, 200
Alexandria, 48 43 cs.
Annatto Bay, 30
Antwerp, 12
Bale. 238
Baltimore, 2
Barbadoes, 200
Bathurst, 80
Bombay, 260 6
Brussels. 800
Calcutta, 10 50 2 pkgs.
Callao, 200 9
C. C. Castle, 210
Colon, 1,250
Constantinople, 1
Dominica, 40
Drewin, 112
Dry Harbour, 50
Gibraltar, 470
Gr Popo, 80
Kingston, Jam., 450
Kurrachee, 250
Little Popo, 120
Malta, 160
Manaos, 1,050
Mexico City, 1
Montego Bay, 80
Neuchatel, 120
New York, 630
Para, 325
Pelotas, 1
Pt. Antonio, 65
Rangoon, 50 2
Rotterdam. 800
St. John's, Nfld, 35 10
St. Lucia, 23
St. Thomas, 875
Salonica. 50
Shanghai, 750
Sierra Leone, 230
Singapore, 300
Teneriffe, 380
Toronto, 1
Trieste. 5
Algoa Bay, 10
Amsterdam, 100
Bermuda, 2
Boma, 250
Cape Town, 500 25
Curaçao, 50
Gr. Bassa, 160
Iquitos, 100
Lagos 340
Limassol, 11
Macassor, 1,500
Matadi, 100
Montreal, 200
Piræus, 25 bdls.
Pt Elizabeth, 80
Pt. Natal. 50 5
Rosario, 1
San Fernando, 400
San Lakar, 100
Smyrna, 25 25
Surinam, 50
Warri, 250
Zurich, 120

Soda—
Patras, 40 brls.
Syra 30

Soda Alkali—
Buffalo, 60 brls.
Corfu, 35
Leghorn, 40
London, Ont, 65
New York 20
Odessa, 100
Toronto, 35

Soda Ash—
Adelaide, 43 cks. 21 brls.
Algoa Bay, 10 kgs.
Amsterdam, 240 bgs
Antwerp, 21 150
Baltimore, 283 2,508 225 tcs
Boston, 249 741 99 cs
B. Ayres, 138 262 brls.
Carthagena, N.G., 10
Corfu, 200
Genoa, 53 70 bgs.
Kobe, 100 180 brls.
Melbourne, 354
M. Video, 80
Naples, 20
New York, 254 469 bgs.
Philadelphia, 24 1,720 127
Piræus. 190 brls
Portland Or, 186 280 bgs. 12
Smyrna, 170 brls.
Talcahuano, 30
Trieste, 11
Yokohama, 50 402
Bahia, 20
Calcutta, 100 6
Ceara, 6
Chicago, 640 bgs.
East St. Louis, 65
Fiume, 80
Gothenburg, 61 250
Hiogo, 150
Lisbon. 41
Maranham, 20
Newport News, 240
Rio de Janeiro. 130
Rotterdam, 4 10
Toronto, 56

Soda Crystals—
Alexandria, 50 brls.
Boston, 140 140 cks.
B. Ayres, 30 kgs.
Coquimbo, 10
Oporto, 26
Palermo, 34
Philadelphia, 374 140
Charlotte Town, 80
Hamilton, 25
Iquique, 200
New York, 84
Piræus, 14
Toronto. 40

Soda Salts—
Boston, 22 cks.

Sodium Arseniate—
Boston, 5 cks.

Sodium Biborate—
Havre, 65 cs. 40 brls. 45 pkgs.
Mollendo, 2
St. Catherines, Ont., 18 brls.

Sodium Bicarbonate—
Adelaide, 295 kgs 50 bgs. 5 cks.
Algoa Bay, 100
Amsterdam, 40
Barcelona, 525
Bourgas, 30
Bremerhaven, 20
B Ayres, 20
Cape Town, 10
Catania, 50
Constantinople, 20
Kingston, Jam., 20
Kobe, 20
Konigsberg, 200
Malta, 10 25
Mexico City, 50
Nagasaki, 200
Newfairwater, 200
Palermo, 45
Patras, 20
Philadelphia, 367
Rangoon, 40
Rotterdam, 40
Salonica, 40
San Jose de Guatemala, 40 kgs.
Santos, 10 kgs.
Singapore, 14 9 cks.
Stockholm, 10
Sydney, 200
Valencia, 50
Yokohama, 710
Alexandria, 20
Charlotte Town, 100
Dunkirk, 30
E. London, 50 bgs
Galatz, 40
Genoa, 50
Halifax, 230
Hamburg, 90 2 cks.
Havana. 20
Hiogo, 300
Hong Kong, 30
Marseilles, 40
Nantes, 44 48
Naples, 160 5
St. Petersburg, 600
Santander, 60
Seville, 34 4
Smyrna. 10
Toronto, 225 10

Sodium Chlorate—
Antwerp, 58 kgs. 10 brls.
Danzig, 40

Sodium Hyposulphite—
Vera Cruz, 12 cks.

Sodium Nitrate—
Canada, 20 bgs.

Sodium Phosphate—
Pasages, 4 cks.

Sodium Silicate—
Barcelona, 85 brls.
Bilbao, 35
Brisbane, 8
Smyrna, 61
Tarragona, 10 cks.
Halifax, 5
Tampico, 35

Sodium Stannate—
Barcelona, 4 kgs.

Strontia—
Bremen, 50 t. 4 c. £

Sulphur—
Boston, 300 t. £1,
Rangoon, 3

Superphosphate—
Valencia, 113 t. 3 c £

Tartaric Acid—
Hamilton, Ont., 10 c.
Havana, 2

Turpentine—
Palermo, 1 t. 2 c.

Varnish—
Antwerp, 6 dms.
Montreal, 8 cs. 4 cks.
Naples, 3
New York, 2
Genoa. 6
Kingston, Jam., 1
Seville, 6

Whiting—
Valparaiso, 20 brls.

Zinc Chloride—
Bombay, 6 t. 14 c.

MANCHESTER

Week ending April 12th.

Alum—
Beyrout, 35 brls.

Anthracene—
Rotterdam, 71 cks.

Caoutchouc—
Rotterdam, 1 cs. 1 trs.

Icals (*otherwise undescribed*)
rdam 17 cks.
erp, 12
rs—
rdam, 2 kgs.
uffs (*otherwise undescribed*)
rdam, 1 kg. 1 cs.
hol—
rdam, 1 cs
fin Wax—
burg, 3 cs.
—
, 22 cs.
Chloride—
rdam, 24 cks.

HULL.

Week ending April 7th.

onium Sulphate—
erp, 500 bgs.
t, 887
burg, 874
rdam, 505
acene—
rdam, 76 cks.
hing Powder—
n, 102 cks.
ay, 160 dms.
nhagen, 2
n, 20
—
erp, 10 cks.
en, 5 bls.
n, 52
ic Soda—
ay, 38 dms
nhagen, 33
, 70
, 402
, 100 cks.
in, 64
icals (*otherwise undescribed*)
erp, 3 cs.
en, 6 cks
ay, 321 9 pkgs.
tantinople. 40
nhagen, 24 40 pks. 49
tiania, 15 10 pkgs.
enburg, 1
burg, 25 234
o, 16 5
achee, 7
gsberg, 3
, 29 277
York, 48
sa, 224 20 pks.
, 18 316 16 cs.
rdam, 59 110
. 3 225
in, 25 200 kgs
nseed Oil—
erp, 239 c.
nhagen, 118
tiania, 103
itheim, 41
enburg, 198
burg, 2,559
igsberg, 846
erdam, 2,001
in, 1,005
iote—
nhagen, 20 cks.
burg, 1
erdam, 25
tuffs (*otherwise undescribed*)
on, 11 cks.
tantinople, 3 bls
en, 4
, 6 2 cs.
al, 3 17
in, 2
ed Oil—
verp, 101 c.
on, 142
en, 101
bay, 493
nhagen, 114
stiansand, 87
stiania, 397
burg, 413
go, 105
achee, 80
s—
nhagen, 4 cks.
;—
nhagen, 7 cks.
ers' Colours—
terdam, 6 cks. 1 dm.
verp, 28 17 4 pkgs. 3 cs.
Boston, 1 80 pks.
Bremen, 20
Bombay, 2 5 110
Copenhagen, 48 2 1 pkgs.
Christiansund, 3
Christiania, 11 38 20 pks. 12
Drontheim, 86
Ghent 9 1
Gothenburg, 1 8
Hamburg, 33 4 1
Hango, 1 26 1
Kurrachee, 25
New York, 10
Odessa, 808 7
Rouen, 5
Riga, 10
Rotterdam, 12 2 1 pkge. 1
Reval, 2
Stettin, 100 10 1
Taganrog Roads, 17
Paraffin Wax—
Odessa, 100 bls.
Pitch—
Antwerp, 215 t.
Copenhagen, 25
Christiania, 65 cks.
Dunkirk, 152
Odessa, 100
Salt—
Hango, 2 t.
Slag—
Christiania, 100 t.
Stettin, 247
Soap—
Copenhagen, 1 cs.
Drontheim, 50
Stettin, 1
Tallow—
Bombay, 25 cks.
Rotterdam, 39
Tar—
Amsterdam, 8 cks.
Copenhagen, 38
Hamburg, 5
Rotterdam, 2
Reval, 40
Stettin, 2 4 cs.
Toluol—
Rotterdam, 26 cks.
Varnish—
Amsterdam, 1 ck.
Antwerp, 1 cs. 1 bl. 1 dm.
Bombay, 75
Copenhagen, 3 6 1 ck.
Ghent, 1 3
Gothenburg, 1
Hamburg, 5 cns.
Riga, 7
Rotterdam, 1 4
Stettin, 1 2 dms. 2
Whiting—
Bombay, 13 cks.

GLASGOW.

Week ending April 12th.

Acids—
Seville, 1 cs. £2
Bombay, 38 t. 7 c. 195
Ammonium Sulphate—
Calcutta, 2 t. 3 c. £29
Arsenic—
Cape Colony, 1 t. 3¼ c. £22
Asbestos—
Bombay, £38
Bleaching Powder—
Boston, 11 t. 18½ c. £88
Bombay, 4 16¼ 50
Boracic Acid—
Hiogo, 1 t. 10 c. £55
Borax—
Hiogo, 1 t. 15½ c. £52
Carbolic Acid—
Hong Kong, 1 t. 6¾ c. £27
Castor Oil—
Cape Colony, 2 t. 13 c. £45
Natal, 19 24
Coal Products—
Creosote Oil
Christiania, 25 cks. £14
Naphtha
Rouen, 27 t. 10½ c. £338
Naphtha Oil
Amsterdam, 1 brl. 15s
Pitch
Calcutta, 9½ c. £27
Christiania, 64 brls. 18
New York, 136 t. 19¾ 231
Tar
Straits, £122
Bombay, 183
New York, 76 t. 4 c. 137
Copperas—
Bombay, 69 t. 3½ c. £149
Dyestuffs—
Extracts
Halifax, £75
Boston, 3 t 12¼ c. 120
Fustic Extract
Boston, 1 t. 2½ c. £45
Glucose—
Cape Colony, 13 t. 5 c. £210
Iodine—
Hamburg, 1 ck. £370
Lead Acetate—
Bombay, 12 t. 17½ c. £192
Linseed Oil—
Japan, 250 glns. £29
Portland, Me., 10 t. 8½ c. 216
Cape Colony, 7 12 152
Natal, 1 1½ 29
Melbourne, 300 glns. £33 10s.
Magnesium Sulphate—
Brazil, 10 t. 14¾ c. £52
Calcutta, 11 7¼ 46
Melbourne. 100 £21. 18s.
Manganese—
Rouen, 5 t £47
Rotterdam, 19 c 10
Oxalic Acid—
Portland, Me., 1 t. 2¾ c. £32
Paint—
Calcutta, 3 t. 10 c. £32. 10s
Chili, 5 ¼ £88
Singapore, 3 16 78
Shanghai, 3 3 35
New York, 5 13¼ £109 10s.
Painters' Colours—
Japan, £125
Calcutta, 9 t. 12 c. 151
Colombo, 21
Cape Colony, 108
M. Video 1 16 30
Paraffin Wax—
Hiogo, 17 t. 12½ c. £390
Japan, 6 1 120
Cape Colony, 12 12½ 373
Potassium Bichromate—
Rouen, 10 t. 1¼ c. £384
Christiania, 1 ck. 16
Hiogo, 5 11¼ 210
Bombay, 7 ½ 265
Potassium Prussiate—
Japan, 1 t. 1 c. £83
New York, 9 ¾ 762
Rosin Oil—
Amsterdam, 15 brls. £30
Salt Cake—
Melbourne, 25 t. £50
Soap—
New York, 2 t. 15 c. £50
Bombay, 19 £21. 12s.
Rotterdam, 1½ £2
Slag—
Rotterdam, 370 t. £129
Soda Ash—
Seville, 10 c. £3
Sodium Bichromate—
Rouen, 3 t. 3¼ c. £100
Bombay, 2 7 72
Sodium Phosphate—
New York, 11 t. 6 c. £122
Sulphuric Acid—
Straits, 3 t. 8 c. £27
Bombay, 531 5 2,575
Tallow—
Rotterdam, 4 t. 3 c. £130
Varnish—
Hiogo, 1 t. 5½ c. £42
Hong Kong, 11¾ 42
Vermilion—
Boston, 2½ c. £33
White Lead—
Calcutta, 2 t. 10 c. £30
Natal, 11 19 215

TYNE.

Week ending April 7th.

Alkali—
Hamburg, 7 t.
Christiania, 5 5 c.
Drammen, 14 18
Copenhagen, 3 7
Amsterdam, 14 7
Savona, 59 6
Ammonium Chloride—
Barcelona, 1 t. 9 c.
Ammonium Sulphate—
Gothenburg, 30 t.
Antimony—
Hamburg, 7 t.
Antwerp, 10 c.
Rotterdam, 1
Libau, 5
Barium Carbonate—
Hamburg, 100 t.
Bleaching Powder—
Hamburg, 43 t 2 c
Christiania, 1 10
Antwerp, 47 14
Gothenburg, 21 12
Rotterdam, 13
Amsterdam, 28 16
Carbolic Acid—
Odense, 12 c
Caustic Soda—
Hamburg, 1 t. 3 c.
Christiania, 2 18
Antwerp, 2 14
Barcelona, 5 2
Copenhagen, 4 7
Rotterdam, 11 6
Galatz, 32 10
Kainit—
Drammen, 2 t
Magnesia—
Hamburg, 1 t. 6 c.
Barcelona, 5 12
Paint—
Rotterdam, 9 c.
Paint and Varnish—
Bergen, 1 cs.
Soda—
Christiania, 2 t 10 c.
Aarhuus, 7
Genoa, 23 4
Rotterdam, 10
Drontheim, 10 5
Christiansund 3 8
Braila, 4 10
Soda Ash—
Hamburg, 1 t. 6 c.
Christiania, 13
Drammen, 5 6
Rotterdam, 4 2
Gothenburg, 50
Sodium Nitrate—
Drammen, 2 t. 2 c.
Barcelona, 13
Sodium Silicate—
Barcelona, 11 t. 2 c.
Sulphur—
Christiania, 150 t.
Superphosphate—
Memel, 150 t.
Drammen, 18 18 c.
Turpentine—
Antwerp, ¼ c.
Varnish—
Antwerp, ¼ c.
White Lead—
Copenhagen, 3 t. 2 c.

GOOLE.

Week ending April 4th.

Chemicals (*otherwise undescribed*)
Boulogne, 4 cks. 2 dms.
Rotterdam, 96
Coal Products (*otherwise undes.*)
Antwerp, 150 cks.
Boulogne, 260 1 cs.
Ghent, 57
Hamburg, 2
Dyestuffs (*otherwise undescribed*)
Boulogne, 1 cs.
Rotterdam, 46 cks
Manure—
Boulogne, 327 bgs.
Ghent, 223
Hamburg, 244
Ostend, 284
Rotterdam, 500
Pitch—
Antwerp, 349 t.

GRIMSBY.

Week ending April 7th.

Chemicals (*otherwise undes.*)—
Antwerp, 1 ck.
Dieppe, 1 cs. 149 pkgs.
Hamburg, 8 1
Coal Products (*otherwise undes.*)—
Dieppe, 45 cks.

PRICES CURRENT.

WEDNESDAY, April 18th, 1894.

Prepared by Messrs. Higginbottom and Co., 116, Portland Street, Manchester.

The values stated are f.o.r. at maker's works, or at usual ports of shipment in U.K. The price in different localities may vary.

	£	s.	d.
Acids:—			
Acetic, 25 % and 40 % .. .. per cwt.	6/9 & 10/9		
,, Glacial .. .. ,,		50/-	
Arsenic S.G., 2000° .. .. ,,	0	14	6
Fluoric .. .. per lb.	0	0	3¼
Muriatic (Tower Salts), 30° Tw. .. .. .. per bottle	0	0	10
,, (Cylinder), 30° Tw. .. .. ,,	0	3	0
Nitric 80° Tw. .. .. per lb.	0	0	1¾
Nitrous .. .. ,,	0	0	1¾
Oxalic .. .. nett ,,	0	0	3¼
Phosphoric, 1750° .. .. ,,	0	1	0
Picric .. .. ,,	0	1	0
Sulphuric (fuming 50 %) .. .. per ton	15	10	0
,, (monohydrate) .. .. ,,	5	10	0
,, (Pyrites, 168°) .. .. ,,	3	0	0
,, ,, 150° .. .. ,,	1	5	0
,, (free from arsenic, 145°) .. .. ,,	1	6	0
Sulphurous (solution) S.G. 1025 .. .. .. ,,	3	0	0
Tannic (pure) .. .. per lb.	0	1	1
Tartaric .. .. ,,	0	0	11
Arsenic, white powdered .. .. nett per ton	14	5	0
Alum (loose lump) .. .. ,,	5	2	6
Alumina Sulphate (pure) .. .. ,,	5	0	0
Aluminoferric .. .. ,,	2	7	6
Aluminium .. .. per lb.	0	3	0
Ammonia, Anhydrous .. .. ,,	0	1	3
,, ·880=28° B .. .. per lb.	0	0	3
,, =24° B .. .. ,,	0	0	2¼
,, Carbonate .. .. nett ,,	0	0	3¾
,, Muriate .. .. per ton	25	0	0
,, ,, (sal-ammoniac) 1st & 2nd .. per cwt.	39/- & 37/-		
,, Nitrate .. .. per ton	44	0	0
,, Phosphate .. .. per lb.	0	0	10½
,, Sulphate (grey) London .. .. .. per ton	13	7	6
,, ,, (grey) Hull .. .. ,,	13	7	6
Aniline Oil (pure) .. .. per lb.	0	0	5½
Aniline Salt ,, ... ,,	0	0	5¼
Antimony .. .. per ton	45	10	0
,, (tartar emetic) .. .. per lb.	0	0	10
,, (sulphide) .. .. ,,	0	0	10
Barium Chloride .. .. per ton	6	10	0
,, Carbonate (native) .. .. ,,	3	10	0
,, Sulphate (native levigated) .. .. .. ,,	45/- to 75/-		
Bleaching Powder, 35 % .. .. nett ,,	7	10	0
,, Liquor, 7 % .. .. ,,	3	10	0
Bisulphide of Carbon .. .. ,,	11	15	0
Chromium Acetate (crystal) .. .. per lb.	0	0	6
Calcium Chloride .. .. per ton	2	5	0
China Clay (at Runcorn) in bulk .. .. .. ,,	17/6 to 30/-		
Coal Tar Products and Dyes:—			
Alizarine (artificial) 20 % .. .. .. net per lb.	0	0	8
Magenta .. .. ,,	0	3	9
Anthracene, 30 % A, f.o.b. London .. per unit per cwt.	0	1	1
Benzol, 90 % nominal .. .. .. per gallon	0	1	2½
,, 50/90 ,, ... ,,	0	1	4
Carbolic Acid (crystallised 40°) .. .. .. per lb.	0	0	6¼
,, (crude 60°) .. .. per gallon	0	1	7
Creosote (ordinary) .. .. ,,	0	0	1½
,, (filtered for Lucigen light) .. .. ,,	0	0	2½
Crude Naphtha 30 % @ 120° C. .. .. .. ,,	0	0	6
Grease Oils, 22° Tw. .. .. per ton	2	5	0
Pitch, f.o.b. Liverpool or Garston .. .. .. ,,	1	7	6
Solvent Naphtha, 90 % at 160° .. .. .. per gallon	0	1	2
Lucigen" and "Wells Oils .. .. ,,	0	0	2½
Copper .. .. per ton	40	2	6
,, Sulphate .. .. ,,	15	10	0
,, Oxide (copper scales) .. .. ,,	40	0	0
Glycerine (crude) .. .. ,,	15	10	0
,, (distilled S.G. 1250°) .. .. ,,	44	0	0
Iodine .. .. nett, per oz.	0	0	9
Iron Sulphate (copperas) .. .. per ton	1	5	0
,, Sulphide (antimony slag) .. .. ,,	2	0	0
Lead (sheet) for cash .. .. ,,	10	7	6
,, Litharge Flake (ex ship) .. .. ,,	13	0	0
,, Acetate (white ,,) .. .. ,,	25	15	0
,, ,, brown ,,) .. .. ,,	16	10	0
,, Carbonate (white lead) pure .. .. .. ,,	20	0	0
,, Nitrate .. .. ,,	20	0	0
Lime, Acetate (brown) .. .. per ton	6	5	0
,, ,, (grey) .. .. ,,	10	5	0
Magnesium (ribbon and wire) .. .. per oz.	0	2	3
,, Chloride (ex ship) .. .. per ton	2	10	0
,, Carbonate .. .. per cwt.	1	17	6
,, Hydrate .. .. per ton.	17	0	0
,, Sulphate (Epsom Salts) .. .. .. per ton	3	0	0
Manganese, Sulphate .. .. ,,	17	15	0
,, Borate .. .. per cwt.	2	12	6
,, Ore, 70 % .. .. per ton	4	5	0
Methylated Spirit, 61° O.P. .. .. per gallon	0	2	2
Naphtha (Wood), Solvent .. .. ,,	0	3	9
,, ,, Miscible, 60° O.P .. .. .. ,,	0	4	9
Oils:—			
Cotton-seed .. .. per ton	21	10	0
Linseed .. .. ,,	21	10	0
Petroleum, Russian .. .. per gallon	0	0	3¾
,, American .. .. ,,	0	0	5½
Phosphorus (yellow) .. .. per lb.	0	2	2
,, (red) .. .. ,,	0	2	9
Potassium (metal) .. .. per oz.	0	3	7
,, Bichromate .. .. nett per lb.	0	0	4½
,, Carbonate, 90% (ex ship) .. .. .. per ton	16	15	0
,, Chlorate .. .. per lb.	0	0	7¼
,, Cyanide, 98% .. .. ,,	0	2	0
,, Hydrate (Caustic Potash) 80/85 % .. per ton	21	15	0
,, ,, (Caustic Potash) 75/80 % .. ,,	20	0	0
,, ,, (Caustic Potash) 70/75 % .. ,,	19	10	0
,, Nitrate (refined) .. .. per cwt.	1	2	6
,, Permanganate .. .. per cwt.	3	2	6
,, Prussiate Yellow .. .. per lb.	0	0	10½
,, Sulphate, 90 % (ex ship) .. .. .. per ton	9	15	0
,, Muriate, 80 % (do.) .. .. .. ,,	8	7	6
Silver (metal) .. .. per oz.	0	2	4⅜
,, Nitrate .. .. ,,	0	2	10
Sodium (metal) .. .. per lb.	0	3	4
,, Carb. (refined Soda-ash) 48 % .. nett per ton	4	17	6
,, ,, (Caustic Soda-ash) 48 % .. ,, ,, f.o.b.	4	2	6
,, ,, (Carb. Soda-ash) 48% .. .. ,, ,,	4	0	0
,, ,, (Alkali) 58 %) .. .. .. ,, ,,	3	15	0
,, ,, (Soda Crystals) .. .. .. ,, ,,	2	17	6
,, Acetate (ex-ship) .. .. ,,	14	15	0
,, Arseniate, 45 % .. .. ,,	11	0	0
,, Chlorate .. .. per lb.	0	0	8¾
,, Borate (Borax) .. .. net, per ton.	28	0	0
,, Bichromate .. .. ,, per lb.	0	0	8⅜
,, Hydrate (77 % Caustic Soda) (f.o.b.) net pr. ton	10	7	6
,, ,, (74 % Caustic Soda) ,, ,, ,, 10 ton lots	10	2	6
,, ,, (70 % Caustic Soda) ,, ,, ,,	9	2	6
,, ,, (60 % Caustic Soda) .. ,, ,,	8	2	6
,, ,, (60 % Caustic Soda, cream) (f.o.b.) ,,	7	17	6
,, Bicarbonate .. .. ,,	6	12	6
,, Hyposulphite .. .. ,,	5	12	6
,, Manganate, 30% .. .. ,,	16	0	0
,, Nitrate (95 %) ex-ship Liverpool .. .. per cwt.	0	10	6
,, Nitrite, 98 % .. .. per ton	29	10	0
,, Phosphate .. .. ,,	15	0	0
,, Silicate (glass) .. .. per ton	5	7	6
,, ,, (liquid, 100° Tw.) .. .. .. ,,	4	5	0
,, Stannate, 40 % .. .. per cwt.	3	0	0
,, Sulphate (Salt-cake) .. .. per ton.	0	17	6
,, ,, (Glauber's Salts) .. .. ,,	1	5	0
,, Sulphide .. .. ,,	8	10	0
,, Sulphite .. .. ,,	5	15	0
Strontium Hydrate, 100% .. .. ,,	8	10	0
Sulphocyanide Ammonium, 95 % .. .. per lb.	0	0	7¼
,, Barium, 95 % .. .. ,,	0	0	5
,, Potassium .. .. ,,	0	0	7½
Sulphur (Flowers) .. .. per ton.	7	12	6
,, (Roll Brimstone) .. .. ,,	5	15	0
,, Brimstone: Best Quality .. .. .. ,,	3	17	6
Superphosphate of Lime (26%) .. .. ,,	2	7	6
Tallow .. .. ,,	28	0	0
Tin (English Ingots) .. .. ,,	74	10	0
Tin Crystals .. .. per lb.	0	0	6¼
Zinc (Spelter) .. .. per ton	15	10	0
,, Chloride (solution, 96° Tw.) .. .. .. ,,	5	10	0

THE

CHEMICAL TRADE JOURNAL

AND

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TENDER.

LUDLOW GAS COMPANY.

TENDERS FOR TAR.

DIRECTORS of the Ludlow Gas Company ite TENDERS for the surplus TAR produced at their Works. s to be sent in by the 1st of May.

ghest or any Tender will not necessarily be accepted.

JAMES ELLIOTT,
Manager.

ADVERTISEMENTS.

LL MAN WANTED for Yorkshire Tar Works. ist be first class man.—Address, B., *Chemical Trade Journal* Office.

JMINIUM SULPHIDE $Al_2 S_3$ Decomposed cold water into Aluminium Hydrate and Sulphuretted Hydrogen ($H_2 S$), e used as a convenient method for obtaining pure Sulphuretted Hydrogen Acid for laboratory and other purposes.

nd particulars of the Secretary, Electrolytical Separation Syndicate, Ltd, Broad-street, London, E.C.

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RIVER POLLUTION.

OUR attention has been drawn to the remarks of a correspondent of the *Preston Herald* in reference to the pollution of the Calder by a Burnley printworks, and the comments seem to us so unfair and so one-sided that we feel constrained to say a word or two on the other side of the question. We think we can do this without fear of being misjudged, as we are, and always have been, consistent advocates of the compulsory purification of manufacturers' waste liquors running into water courses. There are very few sane people, we venture to think, who will not admit that our streams and rivers are more or less public property, and on no account should individuals be allowed to injure that which belongs to the community at large. We say on no account, but perhaps there are reservations, and it is round these reservations that the whole controversy lies—so much so, in fact, that for all practical purposes we are driven to adopt that the doctrine of expediency rather than that of abstract theory for our guide. It is perfectly true, for instance, that if the chimneys of our large cities suddenly became smokeless and all our mills and factories were stopped, there would be an immediate and immense improvement in the condition of the atmosphere, trees would again flourish where vegetation has become extinct, and the conditions of animal existence would be improved in equal ratio. But here comes in the doctrine of expediency, with the question "What is the use of stopping your mills and factories to improve the conditions of life if upon the activity of those mills and factories life itself depends?"

The question of river pollution is a very similar one. We think that the prolific legislation of recent years has fully recognised this point, and that apart from the shortcomings which are inevitably associated with human enactments, there is nothing in the spirit of the law to unduly harass trade. This sin, if committed, will have to be laid to the charge of the administrators of the law rather than to the spirit of the law itself; but the administration of the law is always materially influenced by the state of public feeling, and perhaps no factor contributes so much to the formation of public feeling as the newspaper press of the day; and so a very heavy responsibility lies at the door of those who, like "Ribblesider" in the *Preston Herald*, intemperately work upon the mind of the public with a view to bringing about a state of things apparently beautiful in theory, but decidedly inexpedient in practice. This country is above all things a manufacturing one. Its very existence as an important nation depends upon its mills and factories, its dye works, and its print works; in spite of all the ravings of unprincipled demagogues and paid agitators, it stands in the front rank of the nations so far as the well-being of its labouring classes is concerned. Without wishing to be dogmatic, we think we are entitled to offer the opinion that the stagnation of trade to-day, and the

general depression under which manufacturing interests of all kinds are suffering, are very strong and cogent reasons against placing any additional burdens that are not absolutely necessary upon the shoulders of the manufacturing community. We say community advisedly, for the interest of the workman is essentially bound up with that of his master, and the cause which compels the latter to withdraw his capital and close his factory, turns the former into a grovelling mendicant, and deprives his children of their daily food. Year by year the tendency is for the dividends of manufacturing concerns to assume smaller dimensions, and with this gradual shrinkage of profits there is an accompanying shrinkage of inducement for those who have the means to embark their capital in trade. Capital is proverbially timid, and it should be the aim of those who have the country's interest at heart not to increase this natural timidity by ill-advised and intemperate agitation. It may be a great source of disappointment to "Ribblesider" that he cannot catch "jack-sharps" in the Calder, and the unsuitability of the water for his personal ablutions may cause him a certain amount of discomfort, but after all the question is one of expediency, and desirable as it might be to reform the stream in question till "jack-sharps' could live and Ribble-siders bathe therein, there may, we maintain, be a price for effecting this reformation which it is not expedient to pay. If the authorities in whose hands lies the administration of the law, know that they are backed up by the sound and temperate judgment of a community that realises that there may be a certain amount of connection between discoloured streams and local well-being on the one hand, or between limpid brooks and poverty on the other, we feel certain that the desired reformation will be the more certainly brought about, because it will be effected on a sounder basis and be less liable to the interference of reactive legislation.

THE EIGHT HOURS' SYSTEM.

MESSRS. PETER SPENCE & SONS, of the Manchester and Goole Alum Works, having a few months ago adopted the eight-hours *regimé* at both these establishments, our representative recently called upon them and was courteously furnished with the following information as to their experience of the system :—

The working time has been reduced from 58 hours per week to 48 hours, and the old amount of work is being done in the reduced time for the old aggregate wages. Previous to the change a memorandum from the firm was posted in the works to put the workmen on their metal by showing them that if in the present extremely unsatisfactory state of trade the labour costs were increased it would be fatal to the permanence of the new system. Various rearrangements were of course necessitated in the tasks and shifts, the firm being greatly helped by their staff in successfully planning these. Messrs. Spence consider that whilst the eight hours movement is a reform which will undoubtedly have to be mixed with brains, it is also one which well illustrates the adage "where there is a will there is a way." As regards the tradesmen, who could not in the nature of things be put upon piece or task work, nothing could be done beyond getting a personal pledge from their foremen that the labour costs in their departments would not be increased, and the results have quite borne out their assurances. As an example of the new arrangements in the shifts, it may be mentioned that the sulphur ore kilnmen, who formerly were at their posts 67½ and 72 hours on days and nights respectively, are now at their jobs only 46 and 54 hours respectively. This gives each kilnman a mean week of 50 hours instead of 48 hours as in the case of the other workmen. The 24 hours are covered at the kilns in the following manner : One day-man comes on at six a.m. and goes off at two p.m.; another day-man comes on at ten a.m. and goes off at six p.m.; similarly one night-man comes on at six p.m. and goes off at two a.m. ; a second night-man comes on at ten p.m. and goes off at six a.m. Each man, therefore, is on duty four hours with his co-worker, and four hours alone. During the last four hours of each shift the heavy double-handed work is got through, and during the remaining four each man is able to accomplish his work alone.

As most vitriol makers consider Sunday charging of kilns ab necessary, it may be stated that Messrs. Spence entirely did aw it in their works 15 years ago. The effects have been most be no change having been made in the kilnmen for many year following are the acid results :—With an average chamber cap 18·5 cubic feet per 1lb. sulphur charged per 24 hours the avera sumption of nitre on sulphur charged is 2·8%, and the total loss is 4·7%. Messrs Spence consider that the kilns benefit by the ment as well as the men : the heat which has accumulated during the burning of six twenty-four hour charges being gently again during the 24 hours Sunday stop. The "solution of cont over the week end is arranged as follows : - (*a*) by giving during hours before Saturday midnight half charges of ore to that half set of kilns which has been longest charged ; and similarly dur six hours after Sunday midnight giving half charges to the re and latest charged half of the set ; (*b*) by giving the full proportion up to Saturday midnight and resuming that proportion after midnight ; (*c*) by well closing before the stoppage all the kiln o and lessening the gas exit from the Gay Lussac tower to the ch (*d*) by having on Saturday midnight a large stock of acid in the tar the Glover and the Gay Lussac towers, and paying a visit of a few r duration to the plant during the course of Sunday to see tha going on right.

In the case of other operations where only one man was during the day and another at the same post during the night, such continuous jobs were coupled to enable their four men t the 24 hours in eight-hour shifts as with the pyrites kilns.

Messrs. Spence say that the unsolicited change to the eig system has been most highly appreciated by the workmen, w sented their employers last week with an illuminated and mos fully-worded address.

THE INTERPRETATION OF RATES EXCHANGE.

IN his book upon "The World's Monetary Exchanges," Mr. Norman says :—Sailors, travellers and traders should kno prices and rates of Exchange mean in each country. There ar kinds of *Prices* : (1) Gold prices, such as exist in the Britis Australasia, Canada, and the United States of N. America ; (2 cum-coinage-charge prices, as in Scandinavia (¼ per cent. char other European States ; (3) Silver prices, as in China ; (4) Silv coinage-charge prices, as in Mexico (5 per cent.), in India bef destruction of her standard (2½ per cent.), and in Japan (1 per (5) Inconvertible paper prices, as in Russia and among 100,0 more of the inhabitants of the earth ; (6) Silver cum-counter prices, as in Java and in British India at present ; (7) *Either Silver* at-the-option-of-the-payer prices. This practice is dyi and no further allusion to it is needed here.

Rates of Exchange exist of the same description as is given Prices, but in most countries the coinage charges are so smal render it unnecessary to draw a distinction between countries w without coinage charges in the following. *Examples.*—Th quotations from the *Times* wherein this information has been much improved. *United States* on London at sight, 4·88¾ dol £. (by Gold Table, par 4·86⅜). This shows that the exchange for gold. *Shanghai* on London, 33 pence, or a tael for 33 penc the ratio of 33 of silver to 1 of gold, divide 513 grains of silver tael by 33 = 15·545 grains of gold. This, multiplied by the sign for 1 grain, gives 33 pence, and shows that it is silver fo *St. Petersburg* on London, 93r. 10c. This means 93 10 copecks for £10 : read 9 roubles 31 copecks per £. (by Table, par 6r. 30·59c.). This shows that gold is at a prem more than 45 per cent. in paper. London on St. Petersburg for a rouble (by Gold Table, par 38·06 pence). Par is 51 pe more than 25$\frac{8}{16}$ pence. This shows that the currency of Russi convertible paper. *Buenos Ayres* on London, 13·37 pence. means a peso for 13·37 pence (by Gold Table, par 47·578). shows that gold is at more than 250 per cent. premium, and t currency consists of inconvertible paper. *Java* on London (through Holland) 12fl. 7c. This means 12 florins 7 cents per £ currency at Java is a 2½ florin silver piece, which circulates t 2½ gold florins : 2½ gold florins contain 23·3335 troy grains gold. The ratio of silver to gold at 33, the 2½ florin piece contain 770 troy grains of pure silver. It contains 376·14 troy This shows that the currency consists of silver and a counter-ch 102 per cent. *India* on London, 13⅝ pence. This means a for 13⅝ pence. The rupee is 165 grains of pure silver, the ra 165 divided by 33 = 5 grains of pure gold or 10·62 pence. shows that the currency consists of silver and a counter-cha 28·3 per cent. There remain many adherents of Bishop B (A.D. 1712), who defined money as a *counter*. Money is a ma weight and value combined in the general opinion of the world.

Legal Intelligence.

HIGH COURT OF JUSTICE.

QUEEN'S BENCH DIVISION.

Lord Coleridge, Lord Chief Justice, Mr. Justice Wright, and Mr. Justice Kennedy.)

THE UNITED ALKALI COMPANY *v.* SIMPSON.

Court, as above constituted, sat to take the above-named case account of its importance. It was a case stated by justices of ire on an information at the Widnes Petty Sessions, in the of Prescott, Lancashire, preferred by Simpson against the y under the 11th section of an Act to protect navigable waters . III., c. 159), charging that the company in May, 1893, at ank, Widnes, caused to be cast alkali waste in a place on ear their chemical manufacturing works, where the same was be washed into the River Mersey by floods or tides, contrary tatute. Upon this information the company was convicted and nd so on two other similar informations. But the magistrates case for the opinion of this Court, which now came on to be heard ued. The informations were laid by Simpson, on behalf of the conservator of the Commissioners for the Conservancy of the Mersey. The company at their works carried on the business of anufacturers, and in the course of such manufacture a refuse or produced known as alkali waste. This waste product, to the of many thousand tons in the year, was formerly placed in r mounds on the nearest vacant space; but the company, o prevent the necessity for depositing the alkali waste and o utilize it by extracting the sulphur from it, have lately put at their works, in the course of their manufacture there, a chemical process known to the trade as the "Chance pro- and they have also there treated by the same process quantities of vaste procured from other works of the company, and brought works for that purpose. The "Chance process" is a method of alkali waste (after it has been mixed with water) with carbonic s, whereby sulphuretted hydrogen gas is evolved in close tanks, lised for the production of sulphur, and the residue is left in the the form of a liquid containing in suspension solid matters in divided state, which, when deposited, form a mud which is in the trade as "Chance mud" The solid matters in this consist of about 87 per cent. of carbonate of lime in a very livided condition, and about 13 per cent. of other substances imilar condition. These solid matters were kept in suspen- the water while in the tanks by means of agitators revolv- wly inside the tanks. On May 16, 1893, and for some time e company discharged this residue from the tanks through ipes, which carried it into sewers belonging to the works, it would mix with other drainage of the works, and by means e sewers it was discharged into a natural brook, known as rsh Brook (not the property of the company), at a point 500 yards above where the brook falls into the River Mersey. lid matter thus discharged in each week would have weighed 567 tons. The brook sewer serves as a drain to a number of works and manufactories, and to carry away surface water from iderable district. The brook is tidal up to and beyond the point the sewers from the works discharge into the brook. It was , and found as a fact, that part of the solid matter thus dis- d from the works into the brook became deposited in the from the point of the outfall of the sewers into the brook ards; and that the remainder of the solid matter was carried he brook into the River Mersey by the tide or by other water down the brook; and, further, that part of the solid matter in suspension was deposited on the shore of the Mersey near the of the brook between high and low water marks. The enactment ible is that "if any person working any quarry, mine, or r to the sea or a river, or if any person shall cast from the shore rth, rubbish, or filth into any port, harbour, or navigable river so end to the injury or obstruction of the navigation, such person orfeit," &c. The question was whether the conviction of the ny was warranted under this enactment. On the part of the ny it was contended that it was not, on the grounds—(1) that the ny are not "persons" within the enactment; (2) that the stuff ged was not "earth, rubbish, or filth" within the enactment; (3) e evidence did not disclose any case of casting or throwing on where it was liable to be washed into the sea or any navigable as it was proved that the point at which the stuff was discharged e brook was about 500 yards above where the brook falls into the ; (4) that the acts complained of do not constitute an offence the enactment unless it be shown that such acts were committed to tend to the obstruction of the navigation of the river," and e conservators had not alleged nor proved any obstruction to the tion. The magistrates, however, being of opinion that the objections raised were not good in law, convicted the company, who upon the case thus stated now appealed.

Mr. Joseph Walton, Q.C., appeared for the company, and argued on their behalf, citing on the first point the Queen *v.* Clewer, as showing that the company were not included within the terms used. The words used did not include chemical deposits. Neither "rubbish" nor "filth" would be applicable to such deposits. Fine deposits such as this stuff in suspension in water cannot be called "earth" or "rubbish." [Lord Coleridge: Is it not "filth"?] No, for it is not said to be offensive. The Legislature did not intend to interfere with chemical or manufacturing processes, and thus to interfere with industrial enterprise. If this conviction be supported, it will affect all works or factories near any brook which discharges into a navigable river, though there is really no danger of obstruction to the navigation. The object of the Act is to protect navigation, and the plain natural meaning of the words is to do so.

Sir H. James appeared for the conservators in support of the conviction. Surely, he said, this company was within the Act? And surely this sediment was "rubbish" or "filth"? [The Court intimated that they agreed on both points.] Then the only remaining point is the question whether it is necessary to show that the deposit of the sediment tended to obstruct the navigation. Can it be doubted that in fact the throwing of about 600 tons a week in the river must have that effect? But that is not a necessary part of the offence, which is throwing it in.

The Lord Chief Justice delivered judgment to the effect that the conviction was right, and that it was not necessary to show a tendency to obstruct the navigation. It was an offence to deposit the sediment in such places that it might be washed into the sea or the river.

The other Judges concurred.

Appeal dismissed, with costs.

MANCHESTER ASSIZES.

NISI PRIUS COURT.

(Before Mr. Justice Day and a Special Jury.)

SEDDON AND SONS *v.* THE DAIRY AND DOMESTIC SALT COMPANY, LIMITED.

Messrs. Ralph Seddon and Sons, manufacturers, Manchester, sued the defendants in this case, who carry on business at Middlewich, for damages for breach of contract. The plaintiffs' case was that on the 18th July, 1893, a contract was made between the parties under which the defendants were to supply the plaintiffs with 750 tons of lump salt at 15s. per ton, and 750 tons of common salt at 11s. per ton, less 2½ per cent. discount, the delivery to extend over six months. A quantity of the salt had been delivered, when, on August 5th, the defendants repudiated the contract. The price of salt rose rapidly after July 24th, in consequence of the coal strike. In the case of lump salt the increase was from 5s. to 9s. per ton, and in the case of common salt from 1s. to 4s. 6d. The plaintiffs had to purchase elsewhere, and suffered through having to pay the market price. They claimed £310. as damages. The defence was that the company did not agree to the contract.

The jury found for the plaintiffs for the sum claimed.

THE PROPERTIES OF ELECTRIFIED GASES.

IN a lecture delivered at the Royal Institution recently, Professor J. J. Thomson demonstrated that the states of electrification of gases contained in bulbs through which an alternating current is being passed vary according to the gas and electrodes used. Oxygen gives a strong positive electrification, while with hydrogen it is different in different parts of the bulb. The discharge from an electrode of oxide of copper in hydrogen is negative till the oxide is reduced, when it becomes positive. Such results seem to afford some support to a theory of the fundamental identity of chemical and electrical action. Professor Thomson then went on to consider the discharge through gases without metallic electrodes. From his experiments he deduced the conclusion that the conductivity of gases at a certain degree of rarefaction is greater than that of any metal, and almost infinitely greater molecule for molecule. At a higher degree of rarefaction, however, conductivity is diminished, and in a perfect vacuum, as has been shown by some of Professor Dewar's experiments, it is probable that the dischaage would not pass at all. Professor Thomson also showed that when a vacuum bulb was enclosed in a vacuum jacket which had been made with mercury and the whole apparatus placed inside a coil, the discharge occurred only in the inner bulb. But upon increasing the density of the mercury vapour in the annular space the discharge took place there instead of in the inner bulb. Whatever deduction may be made from this experiment it is clear that the annular space in both cases is permeable by electric force—in other words, that electric currents cross a high vacuum quite freely, though they produce no glow to indicate the fact.

Our Book Shelf.

A Manual of Microchemical Analysis. By H. Berens. 246 pp. with Index. 84 Illustrations by the Author. London: Macmillan and Co. 1894. 6s.

This work will be found to be a valuable assistant to the study of microchemical analysis. The science is comparatively in its infancy, and this work is one of the first in the English language to treat it systematically. The Introduction, written by J. W. Judd, F.R.S., deals with the possibilities and drawbacks of this method of analysis. Coming to the work itself, which is really a translation of Boricky's original memoir supplemented with explanations by the translator, we have at the outset of Part I. a most interesting and ably-written series of chapters dealing with the history and aims of microchemical analysis and the apparatus and reagents used in such analysis. Throughout the work the chemical behaviour of the objects is counted of greater importance than the crystallographic forms, the subject naturally being treated from a chemical rather than a geological aspect. The author further, in endeavouring to make microchemical analysis as easy and expeditious as possible, has intentionally avoided employing the optical properties of crystals as means of identification, it being sufficient, save in a few special cases, to depend upon the general form and characters of the different crops of crystals.

It is quite possible that in time this system of analysis may be as useful as blowpipe analysis is to-day, but there is a good deal to be done by students in this direction before anything approaching proficiency can be attained, as so much depends upon the experience and training the mind of the operator has had, in recognising the different appearance assumed by crystals of the same compound, even under conditions which are very similar. For instance, it would require a great deal of experience to distinguish between the double carbonate of Thallium and Thorium, and lead sulphate. Strontium sulphate and lead sulphate are also too much alike to be convenient for analytical work, and further, Strontium sulphate assumes two very distinct forms, according to the method of precipitation, a fact which would lead to confusion unless much forethought and experience were employed in analysing. The sytem, however, is admirably worked out, and there are to all appearances plenty of tests available, many of which are decidedly characteristic. The information about arsenic testing is rather scanty, and an able paper which has been read before the Society of Arts, bearing upon the application of microchemical analysis to the detection of arsenic, has seemingly been entirely overlooked

Part II. of this book deals with the applications of this new system of analysis to the examination of ores, water, alloys, rocks, and is even more interesting than Part I., which is certainly not unentertaining to the chemist. Mineralogists will find something new in the section dealing with the hardness of rocks and the method of testing the same as devised by the author. The work as a whole can be safely recommended to geologists, analysts, and students of the other correlated branches of science, as it is one of the first, and so far much the best, of the handbooks of microchemical analysis.

Gas Engineers' Laboratory Handbook. By J. Hornby. 304 pp. with Index. 63 Illustrations. London: E. and F. N. Spon. 1894.

This work, which is neatly got up, and of a handy size, is a compilation of such chemical knowledge and analytical methods as it is advisable for a gas engineer of the present day to be acquainted with. With the growth of specialisation, it is only to be expected that the specialist type of text-book will increase also. The book is divided into five parts. Parts I. to III. inclusive are a synopsis of one or two well-known text-books of Elementary Quantitative Analysis. Seeing that the work is intended to be of the technical order for technical men, there are many points about some of the analytical methods recommended which are open to argument.

Part IV. deals with special analyses for gas works, and includes the analysis of coal, coke, lime, iron oxide, spent oxide, fire clay, and bricks, coal-tar, and many other items. For a book written for the gas industry the particulars about benzine are very meagre. It is a pity that, possessing as it does many excellent features, the book should be marred by incompleteness. As a case in point, in the analysis of $Am_2 SO_4$, mention is only made of the estimation of the ammonia, the advisability of testing for ammonium sulphocyanate, or determining the free acid being quite ignored. On the other hand the chapter on the assay of coal-tar is practical, to the point, and very good. The fifth and last part is devoted to technical gas analysis, while an appendix contains the Gas Referees' standard tests and regulations, together with a number of really most useful tables.

There is this, moreover, to be remembered. Any defects in the way of incompleteness, apart from being largely compensated for by the general utility of the work, possess the advantage of being easily rectified in the future. In the meantime the book will undoubtedly be found most useful to chemists and engineers connected with the gas industry, as it contains under one cover a lot of information, which it otherwise would take a great deal of time and trouble to look up, even after finding out where to look. This is just what technical men wish to save themselves, and this book readily enables them to do so.

EXPORTS OF ALKALI AND BLEACH.

THE following figures, which are taken from the official foreign and colonial statistics of the United Kingdom, give the amount and value of alkali and bleaching materials shipped to the undermentioned countries during the month of March, 1894, as compared with the same month of 1893:—

ALKALI.

Port.	1893.	1894.	1893.	1894.
	Cwts.	Cwts.	£	£
Russia	10,769	5,573	4,703	1,977
Sweden and Norway	6,156	10,196	1,991	2,682
Germany	11,424	9,750	4,907	3,149
Holland	8,600	7,899	2,240	2,102
France	6,215	5,019	2,614	1,901
Spain and Canaries	16,925	27,190	7,195	11,768
Italy	18,243	13,015	6,753	4,907
United States	518,509	266,723	156,522	64,014
Australasia	16,346	22,425	5,138	6,325
British North America	8,787	10,382	2,650	2,842
Other countries	66,735	80,109	23,597	27,329
Total	688,709	458,281	218,310	128,996

BLEACHING POWDER, ETC.

Port.	1893.	1894.	1893.	1894
	Cwts.	Cwts.	£	£
United States	104,478	70,370	44,263	28,123
Other countries	42,033	31,116	16,512	12,304
Total	146,511	101,486	60,775	40,427

Parliamentary Jottings.

DEADLY ACIDS.

In the House of Commons last week Mr. Arthur Acland, replying to Mr. Macdona, said 42 deaths had been reported in the *Pharmaceutical Journal* since the beginning of the year from carbolic acid. The Government was considering whether some precautionary regulations could be applied to the sale of carbolic and other acids.

DISASTROUS FIRES.

Mr. Paul asked the Secretary of State for the Home Department whether his attention had been called to a disastrous and fatal fire in Northampton-street, Clerkenwell, on Saturday, March 24, caused by the upsetting of a paraffin lamp; whether he could state what was the nature of the oil in question, and what was its flash point; and whether, having regard to this and similar disasters, he would appoint the committee already promised to inquire into the whole subject of the Petroleum Acts.

Mr. Asquith: We have no knowledge whatever of the circumstances of this fire, as these matters do not come under the cognizance of my department. No returns are made to me of petroleum accidents. Perhaps the local authority (who are in this case the London County Council) have information on the subject, but I have none. As regards the last paragraph, I am considering what ought to be the scope of the inquiry and the terms of reference of the proposed committee to inquire into the Petroleum Acts.

ARBITRATION IN TRADE DISPUTES.

A Bill prepared and brought before Parliament by Mr. Butcher, Sir John Gorst, Mr. Horace Plunkett, and Colonel Palmer to establish boards of conciliation and arbitration in trade disputes was issued last Monday. It provides for the establishment of a board in every area under the authority of a county council, the board to consist of seven members, three representing employers and three workmen, one being neutral. Each member shall hold office for two years. The services of the board may be requisitioned by the employer or by ten per cent of his workmen. The board shall have power to compel the attendance of witnesses, and to examine them on oath. The members of the board may receive payment for their services as the County Council may determine, and witnesses may receive expenses at the rate not exceeding 10s per day. All payments authorised by the Act to be made out of the funds of the County Council of the district in which the dispute has arisen.

THE ENRICHMENT OF COAL GAS.

SSOR V. B. LEWES has recently read a most interesting paper this subject before the Society of Arts, with a view to showing od results to the consumer by enriching the gas, but that, if ie burns more gas without getting an equivalent value in the ht. Whereas with proper burners 14½ candle-gas would as well as 16, and effect an enormous yearly saving of some f pounds In the opening historical review he mentions ice of gas in 1825 was 15s. per 1,000 cubic feet, and was educed to 6s in 1847. Dissatisfaction with this price, how- ltimately after considerable difficulty and opposition to the f the Great Central Gas Consumers' Company, who were to at 4s. per 1,000, this company taking its first contract for ting in 1851. In consequence the other companies imme- ced their price to 4s., a step which resulted in the citizens being supplied with gas at 4s. as the maximum price per ie Metropolis Gas Act of 1860. Competition grew so keen industry between 1851 and 1860 that a special committee ted by Parliament to investigate the question. The action mmittee was so inimical to the gas industry that the gas had to bring into force a great deal of opposition to the Bill y the special committtee before they could succeed in secur- oval of the objectionable portions of the measure. This, hey eventually accomplished, and the Act was passed. the price of ordinary gas was fixed at a maximum of 4s. 6d., to the Home Secretary to grant an increase up to a limit of uld the necessity arise. After the passing of this Act, the e Gas Companies became very prosperous, and in 1866 the of London promoted a Bill to construct gasworks, and to in competition with the three Companies supplying the city, fortnight's inquiry it was rejected by a Select Committee. rom history and prices to the question of illuminating power ition, it appears from the author's paper that prior to 1850 tention was paid to the illuminating value of the coal-gas the metropolis, but in that year a Bill was passed, which t the light emitted by a brass Argand burner with 15 holes, five cubic feet of gas per hour, should be equal to the light andles, of the size known as "sixes." These wax candles ver, only equal in illuminating power to 10·3 of the sperm resent used for testing purposes, so that when, in 1860, an the illuminating power to 12 sperm candles, it meant an 16·5 per cent. in the illuminating value of the gas; and, in as again raised to 14 candles, and by the Act of 1876 this ed to 16 candles, and remains so to the present time. initiated, this gives the comforting reflection that, although gas has been falling, we are being supplied with a quality 55·3 per cent. more light than the gas sent out from the years immediately following the passing of the Act of vhen we examine the changes which have also taken place in by which the gas has been consumed for testing purposes, we though we have this large nominal increase in illuminating tual light obtained by the consumer remains the same. the 15-hole brass Argand was discarded as a standard er, and was replaced by a 15-hole steatite burner, which, by ie temperature of the flame, developed 11 per cent. more st in 1869 the "London Argand" 24-hole burner was and gave a still further increase in the light obtained from ounting to over 17 per cent., and if we translate the light a the gas sent out by the Chartered, and Great Central Gas in the years 1852 to 1863, from terms of the old 15-hole r, into the light which would have been emitted by re use to-day, it will be found that the results are practically

f what is to follow, it must also be noted that while the of the gas between 1851 and 1894 has practically been erial change, still the proportions of the constituents present d materially. Analysis shows that as compared with 1884 ht and Coke Company's Gas is now about 6% richer in % richer in carbon monoxide, and 5% lower in saturated s than it was then.

lve months ago it was observed by consumers in London t altering their burners or burning the gas longer hours, ctually burning more gas. The author who has been estigating this question was for a long time unable to find ion for this fact, until he observed that up to three years e emitted by a standard London Argand, when burning a al-gas, at the rate of five cubic feet an hour, was exactly but that since that time the height of flame necessary to ount of light had been steadily growing less, and at the ent a 16-candle flame in the London Argand has a height inches. The cause of this is that the height of a flame nds upon the constituents of the gas, and whereas hydrogen gives an excessively short flame, methane, or marsh gas, will give a flame more than four times as long, when burning at an equal rate of flow, the flame yielded by carbon monoxide being intermediate in size between the two.

It is evident that the altered percentage of H and CO has led to a change in the size of the flame. The effect this will have upon the householder's consumption of gas is very apparent, as when a householder lights his gas burners he invariably turns on the gas until he gets the largest possible flame without roaring or smoking, and, from the alteration in the composition of the gas which has taken place, this means using far larger quantities of gas than heretofore, so that, although an increase in illuminating power is obtained, a substantial increase in the quarter's gas bill is also found.

Among other reasons for this change in the percentage composition of the coal-gas, one lies in the adoption of carburetted water-gas for enrichment purposes. Carburetted water-gas burns with a short but very brilliant flame, far shorter than coal-gas, a 22-candle water-gas flame burning from a London Argand at the rate of 5 cubic feet an hour with a flame only 2½ inches in height, whilst a 16-candle flame of the gas supplied up to three years ago gave a flame 3 inches in height; and by an extended series of experiments the author has shown that the coal-gas now supplied and enriched with the carburetted water-gas only gives a flame of 2·6 inches in height, in order to emit a light of 16 candles, instead of 3 inches, as formerly was the case. The companies are perfectly within their rights in supplying gas of this kind, and the only remedy is to make it known to the gas consumers that if they desire their gas bills to remain at the same figure as before carburetted water-gas was used as an enricher, they must study the light emitted by the flame, and not its size. All companies, however, do not enrich in this manner, and consequently this difficulty of increased consumption does not always present itself.

With regard to the decrease in the illuminating power the author calls attention to one or two noteworthy facts.

In the big mains the gas is continually flowing at a fairly steady rate, and is neither exposed to any great alteration in temperature, nor from the size of the mains, to any very great amount of "skin friction," *i.e.*, rubbing of the gases against the sides of the pipes; but as soon as distribution commences, both these factors come into play, and as some of the chief illuminants of the gas are vapours and not permanent gases, lowering of temperature causes condensation of some of them, whilst the power which friction against the sides of the main service pipes, coated with deposited hydrocarbons, has of withdrawing the illuminants from the gas, still further decreases its light-giving value, whilst anywhere near the dead end of a service, stagnation in the gas during a large proportion of the 24 hours, when gas is not being consumed, adds still further to the trouble, and even at the testing stations, the influence of the small consumption of the gas on Sundays, and consequent stoppage in the manufacture on that day, can be traced in the illuminating value found on Monday morning. Again, the amount of illumination which can be obtained by the consumption of coal-gas is entirely dependent upon the method by which the gas is burned. From a so-called 16-candle coal-gas the consumer rarely obtains a value of more than 12 candles per 5 cubic feet of gas consumed; while by using burners of rational construction, upwards of 40-candle illuminating power could be obtained for the same consumption of gas.

If the gas companies could only get an Act passed authorising the use of a regenerative burner as the standard, there is no reason why they should not call the gas at present supplied 40-candle gas, the consumer, however, using the flat flame burner, would still be only obtaining the light he did in 1850.

With a view to showing how little light is developed by ordinary burners, the author has made a number of careful experiments, from which he finds that if the burners most commonly in use in houses be examined, they will be found to consist chiefly of No. 4 and No. 5 flat flame nipples, constituting about 85 per cent. of the total number used. The remaining 15 per cent is made up of larger flat flame burners, Argands, and regenerative lamps, which give a higher service; but it will be found that the total value obtained will not exceed 2·5 candles per cubic foot. This means that 75 per cent. of the total value obtainable from the gas is wasted, and that for our present expenditure in coal-gas we could obtain four times as much light.

The difference between 16 and 14½ candle-gas is, therefore, scarcely appreciable to the consumer, while the 14½ candle and cheaper gas will do just as well for regenerative and incandescent mantle burners as 16 candle-gas. It is, moreover, a mistake to assume that as 16 candle-gas is reduced to 15 by distribution that 14½ will come down to 13½, as unenriched gas made at a high temperature does not suffer from condensation to the same extent as enriched gas does As the result, therefore, the author finally comes to the conclusion that it is to the interest of the gas consumer and gas company alike that the price of gas should be reduced to the lowest possible figure, and it seems to him that the possibility of reduction in price is dependent upon the discarding of the costly enrichment.

THE ADULTERATION OF FOOD.

SOME interesting particulars about food adulteration in the U.S.A. have been embodied by H. W. Wiley, the Chemist of the United States Department of Agriculture in a paper which he read recently before the Franklin Institute. Speaking of the adulteration laws in the different States, he says perhaps the best of the State laws concerning adulteration are those of Massachusetts, the statutes of which provide "that no person shall within this Commonwealth manufacture for sale, offer for sale, or sell any drug or article of food which is adulterated within the meaning of this law." The law of Massachusetts is, in all essential particulars, that of the Paddock Pure Food Bill, of course, with such variations as are necessary in the enactment of a State law, as compared with a Federal law. The law of Massachusetts is especially effective as regards the sale of adulterated milk and other adulterated food, and has a system of State inspection which has already reduced the percentage of adulteration to a very low figure. The Canadian law is practically the same as that of England, although it is not so comprehensive.

From a practical point of view, food adulteration may be considered under two general aspects, namely:

(1) Adulteration harmless to health and practised merely for cheapening the article or making it more attractive to the sight or taste.

(2) The addition to a food or drink of substances positively injurious to health.

Such substances are added chiefly as preservatives or for the purpose of colouring or decolourising, or for the purpose of giving a particular flavour or taste. As a rule, they are added in minute quantities. In fact, the proportion of such substances is usually so small that a moderate or intermittent use of food so treated may not produce any great injury to the system. The continued use of such articles, however, must end in the impairment of the general health and sometimes in permanent injury.

In the latter class of adulterations must also be included those injurious substances naturally arising from the decay of wholesome foods, or from the development of noxious substances in canned foods, or from the formation of poisonous salts by the action of the canned foods on the solder and tin of cans. Such materials, while not intentionally added, are, nevertheless, adulterations within the true scope and meaning of the term as applied to foods. In other words, it is not necessary to prove intent in order to establish the fact of adulteration. Any food which is not what it purports to be, which contains any unwholesome or poisonous ingredient, or which has any artificial colouring or facing material, is, to all intents and purposes, adulterated.

There is one legal exception to the above classification, namely, the use of anatto in colouring butter. The American oleo-margarine law, applied to the Territories, the District of Columbia and to interstate commerce, permits an artificially coloured butter to be passed as genuine, and I believe most State laws referring to this subject contain the same provision. Indeed, in some States oleomargarine exposed for sale is required by law to be stained pink or some other colour distinctive from yellow, and such a stain, while an actual adulteration, could not be classed as illegal.

There is still another form of fraud in food which may be defined as a negative adulteration. It consists in extracting from a food part of some valuable ingredient, and selling the residue as the genuine article. The sale of skimmed milk for whole milk, and of spent tea leaves for genuine leaves are illustrations of this kind of fraud. Perhaps the best method of illustrating these various kinds of fraud and adulteration will be to call attention to some of the articles sophisticated in the ways described. No attempt, however, will be made to give a complete list of adulterated articles, for such a list would fill a volume. Attention, therefore, will be called only to the more important articles of food, and to those which are most commonly adulterated. In addition to this, examples will be given of some peculiar forms of adulteration which are little known to the public.

Milk.—Normal cow's milk should contain about three and one-half per cent. of butter fat, and should yield, on standing in a cool place for twenty-four hours, from ten to twenty per cent. by volume of cream. Until the establishment of milk inspection in cities, whole milk was something of a rarity. With careful inspection, such as obtains in Boston, the percentage of adulteration has been largely reduced.

An ingenious method of milk adulteration is sometimes practised by the shrewd husbandman in such a way as to preserve his tender conscience from being seared. The cream in the cow's udder is naturally separated in part from the milk, unless the cow, just previous to milking, be subjected to violent exercise. The first milking, therefore, is less rich in butter fat, and it can be sent directly to the consumer. The last of the milking, called strippings, on the other hand, is nearly pure cream, and can be preserved for butter-making. Butter fat, being lighter than whole milk, cannot be removed without increasing the density of the remainder above the normal. This density, however, can be reduced to the proper limit by the judicious addition of water. The testing of milk by the lactometer alone is therefore not a certain method of discriminating between a pure and an adulterated article.

Condensed milk is made by evaporating whole milk at a low temperature and in a high vacuum, in copper vessels, yet even at this low temperature some of the distinctive aroma of the milk is carried off by the escaping vapours. It therefore happens that even when evaporated milk is diluted to its original volume with water, it is never exactly itself again. Yet a pure condensed milk is not an adulterated article, for it is sold as condensed milk, and hence no fraud is practised. When, on the contrary, as is often the case, sugar or salicylic acid is added in order more securely to preserve the condensed product, then a perfect case of adulteration is established. The manufacturer, however, may relieve himself of all responsibility, in so far as the addition of sugar is concerned, by stating on the label the amount added. In case of deleterious preservatives, however, there would be no excuse. Their use in all cases should be prohibited.

Butter—In regard to butter, the character of adulteration is well known. The use of oleomargarine as a butter substitute has been practised for many years. The oleomargarine law, which imposes a tax of two cents a pound on the manufactured product, has not helped to restrict its use, but has rather increased it by giving to the consumer a guarantee of purity. The amount of tax collected on manufactured oleomargarine for the fiscal year ending June 30, 1892, was $945,675, which shows that that there were 47,283,750 pounds of oleomargarine manufactured in the United States in twelve months.

The number of retail dealers in oleomargarine increased during the year more than 25 per cent. over the preceding year. The amount of tax paid by retail dealers for the fiscal year ending June 30, 1891, was $146,293·70, and for the fiscal year ending June 30, 1892, $204,215.

The increase in the number of wholesale dealers was nearly 100 per cent. The amount of tax paid by wholesale dealers for the fiscal year ending June 30, 1891, was 53,191 dollars, and for the fiscal year ending June 30, 1892, 106,036 dollars.

There can be no reasonable objection to the use of oleomargarine; it is clean, wholesome, and digestible. When it is to be kept for a long time before use, as on ship board or in distant mining camps, it is preferable to butter, because it has but little tendency to become rancid.

Lard.—For similar reasons there can be no possible objection to the use of cotton-seed oil as a substitute for lard or when mixed with lard, provided it be sold for what it is. Most people are familiar with the great fight which was made against the use of the term "pure refined lard," which was the trade name of a mixture of lard stearine with cotton-seed oil. "Pure refined lard," it was claimed, was a term which had been used so long to designate the mixed product that it had become in reality a trade mark, and was therefore entitled to respect and protection. In the investigation which was held before the Congressional committees, it appeared that as to the trade the contention was quite justifiable. Goods sold under that name were understood to be mixed. When, however, the mixed product was offered to the consumer, it was purchased with the idea which the name naturally implied, that an extra fine quality of hog's lard was secured.

All attempts to pass a Pure Lard Bill, modelled on the Oleomargarine Act, have hitherto failed in Congress, but several of the States have prohibited the sale of mixed lard, except when offered under the proper name. Manufacturers have, therefore, been gradually forced to abandon the term "refined lard" when applied to this commodity.

Many persons would prefer a cooking fat largely of vegetable origin to a pure animal product, but it seems that some State Legislatures have taken a reprehensible course in prohibiting the sale of vegetable oils as a substitute for lard for cooking. The grower of hogs undoubtedly has a right to contend against the sale of vegetable oils as hog fat, but when he pushes his claim still further and demands that the markets be closed to products as pure and nutritious as his own, he passes beyond the bounds of public support. Every person in the United States who prefers cotton oil to lard should be allowed to purchase his supplies without let or hindrance. Every grower and maker of pure lard has the right to an equally open market, from which every adulterated and mixed lard, offered as pure, should be rigidly excluded.

For a time, a few years ago, when a popular fad prevailed in favour of nitrogenous foods, the true value of fats to the digestive and nutritive economy was not well appreciated. At the present day this is all changed, and we know how to value a fat properly.

It is therefore a matter of no mean importance to protect the public in the use of olive oil instead of cotton oil, of cotton oil instead of lard, and lard instead of a mixture of beef and cotton oil stearine. It is true that cotton oil, when carefully refined, is almost as good a salad dressing as olive oil, but it is very much cheaper, and those who prefer to pay the high price should be secured against fraud. In respect of wholesomeness and digestibility it would be hard to choose wisely between the two.

the great difficulties in securing the enactment of a National d Bill has been the feeling in cotton-growing regions that ll would restrict the market for cotton oil. This is true if ilent market is meant. By that is meant the surreptitious tton oil as olive oil and as lard. But such a Bill would not in the least with the legitimate market for this product. l, as a food, has such merit of its own as to warrant the belief es not require any smuggling to secure for it a wide and ncreasing use. The South as well as the North would be the m honest markets for honest foods, and it is a short-sighted it leads to a crusade against such legislation as will secure the sult. It would be a rather unfortunate thing for the whole ould an irrepressible conflict between the *sus* and the *gos*ep our interstate market forever open to mixed or doubtful

(*To be Continued.*)

GAS SUPPLY OF LONDON AND LEEDS.

LONDON.

quality of the gas supplied to the City of London for week ending April 7th, 1894, was good. According report of Mr. W. J. Dibdin, chemist and superinas examiner to the London County Council, the tests made at us testing stations showed no deficiencies in illuminating The following figures have been prepared from the id show the average composition of the gas calculated on test :—

pany.	No. of districts tested.	Illuminating power (in stand. sperm candles). Mean average.	Sulphur. Grains in 100 cb. ft. Mean average.	Ammonia Grains in 100 cb. ft. Mean average.	Sulphuretted hydrogen.
nd Coke Co. opolitan Gas	13	16·28	11·04	0·32	Nil.
....	6	16·58	10·48	0·45	Nil.
Gas Co. ..	2	16·50	7·5	0·35	Nil.

andard gas supplied by these companies should have an ng power of 16 sperm candles, and contain not more than 22 sulphur and 4 grains of ammonia per 100 cb. ft. of gas on an f three days with a pressure of one inch between sunset and and six-tenths of an inch between midnight and sunset.

LEEDS.

ing to the report of Mr. T. Fairley, F.I.C., gas examiner the total proportion of sulphur contained in the Leeds gas month ended April 12th, 1894, has averaged 14·57 grains ubic feet. The following are the results of tests made at the grains per 100 cubic feet :—

	Date when Tests were made. Mar. 1894.	Date when Tests were made. April. 1894.	Total Sulphur.	Ammonia.	Carbonic Acid. Weight.	Carbonic Acid. Volume.
ne....	13, 19, 31.	6, 11.	14·16	0·41	73·35	·09
y	16, 20, 30.	4, 10.	14·71	0·96	73·35	·09
.....	17, 21, 29.	5, 12.	14·96	2·09	65·20	·08
Works	..	..	14·57	0·98	73·35	·09
East	..	..	14·37	0·91	65·20	·08

the month the average illuminating power of the Leeds Gas 17, East Parade, the tests being calculated to a uniform conof 5 feet per hour, and corrected for variations in temperature re to a temperature of 60° Fahr. and a barometric pressure hes, has been in standard candles (burning 120 grains of hour) :—Standard argand, 24 holes, 18·1; standard batswing, g's illuminating power meter, 18·2.

"CREAM-COLOURED" MILK IS MADE.—A writer in the *Review* reveals some of the secrets of the milk trade, as by himself in an attempt to run a London dairy upon honest His first discovery was that all London milk had to be to suit the London fancy. This is effected by mixing about oonful of liquid "anatto," a vegetable dye of a harmless th every eight quarts of milk. In vain he explained to his stomers that the proper colour of most milk is white. "They at my white milk was 'chalk and water,' and other people's loured' milk was creamy, beautiful, rich, and fresh. My skimmed, &c. I gave way in this thing alone. I gave them 's desire—the cream-coloured milk."

ANSWERS TO CORRESPONDENTS.

F. B.—Yes, it has been done.

J. H. N.—Only on our terms, as it is not of direct interest.

G. L.—The information is hard to obtain, and those who could impart it are generally very close.

R. G.—We do not know where it is to be had. The query is rather vague, however. If you had referred to the article itself it would have been better.

J. T. M.—We are awaiting the favour of a reply.

W. T.—We cannot always do so. We are as speedy as possible.

R. M. (Berlin).—It was sent off during the week, and should have reached by now.

Trade Notes.

EPSOM SALTS.—We understand that the old idea of utilising the Saline lakes in Southern Spain has again been revived, and that a new company is in process of formation for the purpose of collecting the salts and exporting them to England. We view the project with a certain amount of misgiving, as the supply from Stassfurt is in excess of the demand, and the proposed company's chances of financial success seem to us rather small. We shall probably, however, allude to the subject again.

THE DISPUTE IN THE PATENT FUEL TRADE.—The men who have been on strike for six weeks at the Graigola Fuel Works resumed work last Monday pending the decision of the arbitrators.

DISASTROUS ACCIDENT AT A STEEL WORKS.—A terrible accident occurred recently in a steel works at Pomeroy, Ohio, U.S.A. Six hundred pounds of white-hot metal fell, and four men were burned to death. Six others were seriously injured, one having an arm burnt off, while another lost the sight of both eyes.

PERSONAL.—We learn that Mr. E. G. Clayton, F.I.C., has succeeded to the practice as Consulting and Analytical Chemist of the late Dr. Arthur Hill Hassall, with whom Mr. Clayton has been associated for some years past. The practice will be continued in Mr. Clayton's name at 43, Holborn Viaduct, London, E.C.

THE SANTA RITA NITRATE COMPANY, LIMITED.—The report of this company for 1893 states that the net profit amounted to £16,225., making, with £3,122. brought forward, a total of £19,348., out of which the directors recommend a dividend of 15 per cent. (less income tax) for the year 1893. This will absorb £14,445., leaving £4,904. to be carried forward.

UTILISING OLD STEEL PENS.—The Germans have always been remarkable for practical economy, and the latest effort in this direction fully sustains their reputation. This is the collection of old steel pens. Instead of throwing away these articles which have once done their duty, and which are, as we all know, made of the finest steel, they are preserved and collected, afterwards being manufactured into blades for penknives, watch springs, and a dozen other saleable articles.

THE PAPER WORKS' FATALITIES.—The adjourned inquiry touching the death of the two men employed in the chemical department of Messrs. Olive and Partington's paper mills at Glossop has been concluded. It will be remembered that the men had been engaged in boiling hydrochloric acid, supplied by the United Alkali Co., Limited, for the manufacture of tinfoil paper, and had died from arsenic poisoning. Mr. F. Tate (Liverpool) said he did not consider the quantity of arsenic unusual in the commercial article, but he was of opinion that the method adopted at Dover Mills was risky, and he should not like to undertake it. The jury found that the men had died from the effects of arsenic poisoning, caused by inhaling the fumes of the acid, which contained an excessive quantity of arsenic, and ought not to have been sent out in that condition. They further recommended that in future each mug should be filled separately, and covered before another was filled, and that the men engaged in boiling the acid should be provided with respirators.

SMOKE PROSECUTIONS.—At the Salford Police Court, last week, Thomas Ellis and Robert Wilcock, stokers, in the employ of Messrs. Olive and Partington, paper makers, Lower Broughton-road, were summoned before Mr. J. Makinson, stipendary, for causing a smoke nuisance by negligently using furnaces constructed to consume their own smoke. Mr. A. Holmes, deputy town clerk, appeared to prosecute, and the case was proved by Mr. C. E. Thompstone, smoke inspector for the borough, who said on the 20th March dense smoke was emitted from the chimney of Messrs. Olive and Partington's works for an aggregate of eleven minutes during one hour. The nuisance was entirely due to negligent firing. The defendant Ellis was fined 20s and costs or 14 days' imprisonment, and Wilcock 5s. and costs or 7 days. For a like offence James Roberts, stoker at Messrs Hugh Cawley and Co.'s dyeworks, Adelphi-street, Salford, was fined 10s. and costs or 7 days. In this case dense smoke was emitted for 33 minutes in one hour.

A Disastrous Explosion.—On Wednesday last an explosion occurred in a sludge still at Cassel's Gold Extracting Company's works, Maryhill, Glasgow. Two men were injured, and thirty feet of roofing blown away.

Ortho-Chromatic Plates. Messrs. Fuerst Bros. have taken the sole agency in Great Britain, the Colonies, and the U.S A. for the extra-rapid dry plates, ortho-chromatic plates, and other photographic accessories made by Messrs. Lumière. For the greater convenience of professionals and amateurs in the English-speaking countries, they have arranged that all instructions for the use of, and all printed matter in connection with, Messrs. Lumière's specialités are rendered in English (also English weights and measures).

The Recovery of Coke-oven Products in the U S.A.—The coke manufacturers of the United States are now diligently following the lead of their compeers in Germany in taking steps to utilise the by-products obtained in the process of coke making. The Semet-Solvay process is the one chiefly in vogue in France, while the Otto process is chiefly followed in Germany. Both processes are said to yield about 5½ kilogrammes of sulphate of ammonia per ton of coke manufactured, and this is worth from 10s. to 15s. per ton, according to the condition of the market.

Preparation of Boric Acid.—A process for obtaining boric acid from minerals containing boric acid and lime, which forms the subject of a patent, consists in grinding the mineral and mixing it with water, after which the mixture is subjected to the action of carbonic-acid gas, or sulphurous-acid gas, the latter being preferable when the mineral contains soda. As the result of this treatment boric acid, or borax, is obtained in solution, and the lime is left as an insoluble residue in the form of carbonate or sulphite of lime.

The Castleton Chemical Co. Case.—At the Rochdale County Police Court, last week, before Messrs. C. Whittaker and Abraham Brierley, the charges against Mr. Henry Spencely Close, late managing director of the Castleton Chemical Company, of "falsifying balance-sheets, falsifying books, fraudulently omitting to enter receipt of money, and applying the same to his own use," were investigated, and resulted in the case being dismissed. "Bad blood" existed between the parties, and owing to bad book-keeping misapprehensions had arisen, leading to the laying of the above allegations.

Chadderton Sewage Scheme.—At the Chadderton Town Hall last week, Colonel J. O. Asthead, R.E., held an inquiry respecting an application of the Chadderton Local Board to borrow £48,800 for works of sewerage and sewage disposal and for the provision of a refuse destructor. There were a large number of the members present. Mr. George Taylor (clerk to the Local Board) said that two years ago they were authorised to borrow £30,000 to carry out sewage work, to be repaid within a term not exceeding sixty years. The whole of that amount had been borrowed and expended. They had already purchased 15½ acres of land, and it was now proposed that they should acquire 4¼ more acres, making 20¼ altogether. That would mean an acre of land for every 2,000 of the population. The area of the district was 3,080 acres, the number of inhabited houses was 4,535, uninhabited houses 230, cotton mills 39, the ratable value of the township reached £83,950, and the present rate was 2s. in the pound, a penny rate producing about £330. It was proposed to adopt the International system.—Mr. James Diggle (engineer) gave details of the scheme.—At the close of the inquiry the Inspector visited the works.

Market Reports.

TAR AND AMMONIA PRODUCTS.

Benzol, 90's, is yet cheaper at 1s. 1½d., but 50/90's, like the majority of tar products is steady at 1s. 4d. Crude carbolic acid and carbolic crystals remain in *statu quo ante*. Value for crude naphtha is still 6d., and solvent naphtha keeps steady at 1s. 2d. Pitch is stationary at 27s., f.o.b. East Coast.

Sulphate of ammonia is dull, and prices at all ports, excepting Leith, are much lower. There is not a great deal of sulphate offering, but summer business is more active at fairly good prices Beckton quotes £13. 2s. 6d., and the value for London outside makes is the same. Prices at Liverpool range from £13. to £13. 1s. 3d., Hull £13. 1s. 3d., Leith £13. 5s spot, forward business being quite neglected. Nitrate of soda is easier.

MISCELLANEOUS CHEMICAL MARKET.

In the alkali trade there is a fair amount of business doing in bleaching powder and caustic soda, and market values of these products are unchanged. Bleach, softwoods, f.o.r., £7. 10s. nett per ton, and £8. f.o.b. For caustic soda, current quotations, s usual variations, are as follow:—f.o.b. Tyne, 77%, £10. f.o.b. Liverpool, 74%, £10.; 70%, £9.; 60%, £8.; crea £7. 17s. 6d. per ton, 10-ton lots and upwards. For soda ammonia alkali the demand remains quiet: prices are n without change at 1d. per degree for Leblanc makes, and 5 at £3. 2s. 6d. per ton, bags, f.o.r. makers' works. Chlorate o and soda are slightly easier in price from resellers at 7¼d. a per lb. respectively. In vitriol and muriatic acid there is a fai of business being done. There is no demand for saltcake, a only nominal at 17s. 6d. per ton. Recovered sulphur £3. 17 £4. per ton at makers' works. Sulphate of copper in good re £15. 5s. to £15. 10s. f.o.b. Acetates all round continue de but without any further changes in current quotations. Borax l reduced fully £3. per ton in the past week, and now offering, refined makes at £23. per ton. White arsenic very scarce at to £14. 10s. Yellow prussiate of potash quiet, with price 10½d to 10¾d. Carbolic acids still without movement of any kind. For aniline oil and salt low prices are ruling. Den potash, caustic and carbonate, is fairly active, and prices maintained. Ammonia salts have a slightly easier tend sympathy with the reduction on sulphate.

THE METAL MARKETS.

LONDON, Wednesday.—Pig iron, quiet: Scotch closed at 42s. 8d., Middlesbrough 35s. 11d. cash, and hematite 44 Copper, firm: Chili bars, G.O.B.'s and G.M.B.'s, cl £40. 3s. 9d. to £40. 7s. 6d. cash, and £40. 15s. to £40. three months. Tin, firm: Straits closed at £70. 7s. 6d. 17s. 6d. cash, and £71. 5s. to £71. 15s. three months; Au £71.; English ingots, £75. to £75. 10s. Lead: Spanish, £9. English, £9. 3s. 9d. to £9. 7s. 6d. Silesian Spelter, ordinary, £ Nickel, 1s. 8½d. Antimony, £34. 10s. Quicksilver: firs £5. 15s.; second hands, £5. 14s 6d. *Copper shares*, steady 1⅜ to 1½; Copiapo, 1 11/16 to 1 13/16; Libiola, 3 to 3¼; Mason an 2½ to 2⅝; Rio Tinto, 15⅛ to 15¼; Tharsis, 4⅞ to 5.

WOLVERHAMPTON, Wednesday.—Business was fairly but the negotiations entered into were for small quantities. improvement in export buying recorded. Second-class bars, £ common, £5 10s. to £5. 12s 6d.; sheets easy. Galvanised £10 to £10. 5s., delivered Liverpool. Black doubles are nominal. Hoops and thin strips, £6. 10s.; large angles, £ small rounds, £6. 5s. Pig iron a shade weaker. Native cind to 38s.; medium sorts, 43s 6d.; best, 55s. Coal dull.

GLASGOW, Wednesday.—Market steady, with fair b Scotch done at 42s 8d., 42s. 9d., and 42s. 8½d. cash, also at 4 and 42 11d. one month; closing with buyers at 42s. 8d. cash ask ½d. more. Cleveland closes with buyers at 35s. 11d. cash ask 36s. Cumberland hematite done at 45s. one month; closi buyers at 44s. 9½d. cash, sellers ask 44s. 10d. Middle hematite closes with buyers at £44. cash, sellers ask 1½d. mor

LIVERPOOL OIL AND COLOUR MARKE

Wednes

OILS.—Palm oil is firm. Lagos has been selling forw £21. 10s. per ton, to-day, however, prices are somewhat in favour at £21. 7s 6d. Olive is steady, and, perhaps, in rathe request, though the demand is decidedly quiet. Linseed is firm and position, Liverpool makes in export casks still being 21s. 3d. to 21s. 6d. per cwt. There has been a rising mar cottonseed during the week, and price for Liverpool refined 21s. 3d. to 21s 9d. per cwt. Castor oil is firm on spot for good Calcutta at 2⅜d. First pressure French is offering, ex quay, a per lb. Tallow is scarce, and business is consequently res Rosin is steady, with a fairly good business doing in all gr 3s. 9d. for common, 4s. 4½d. to 6s. for medium, and 7s. to for fine. Spirits of turpentine are steady at the advance of 3 last week's quotation. Petroleum is steady, with American 4 5½d., according to quality, and Russian refined 3⅝d. to 3⅝ gallon.

COLOURS are steady without alteration in Ochres: Oxfordshire, common, £10., medium, £12., best, Derbyshire, common, 40s.; medium, 50s., best, 60s.; Welsh, 70s., seconds, 50s., and common, 18s.; Irish, Devonshire, 45s.; French, J.C., 55s. to 60s.; M.C., 65s. to 67s. 6d. U Turkish quiet; Devonshire, 50s. to 55s. White lead, and of zinc unchanged. Venetian red, £6. 10s. to £10. C Prepared oxide, 9s. 9d.; black, 9s.; blue, 6s. Zaffres: 3s. 6d.; No. 2, 2s. 6d. Oxide of iron: Common, £6.; m £10.; finest, £20. Zinc oxide, £23. to £25.

REPORT ON MANURE MATERIAL.

ontinues to be a steady business for prompt and early delivery, end of the manure season approaches, sellers show greater to make sales, and prices are scarcely maintained. The osition is still for the most part neglected. Quotations for Florida rock are a shade easier, freights being very low, and of cargoes c.i.f. to Continental ports, 1894 shipment, is not . to 8½d. per unit, while for United Kingdom it is 8d. to cording to port. The position of Peace River and South River rocks is unchanged. Algerian, 60% grade, is selling at nit, and 65/70% at about 7½d. There is nothing fresh to River Plate bones, and quotation for Summer-autumn ship- ains £4. 15s. to good United Kingdom ports. On spot one meal may be had at £5. 1s. 3d., ex quay Liverpool, and at £5. down to £4. 17s. 6d, according to position. For ipment the value is £4. 17s. 6d to £5., according to descrip- arring bones on spot are in request, and up to £4. 16s. 3d. id, ex quay Liverpool. Nitrate of soda, owing to arrivals at ll, is easier. On spot the quotation is 10s. 6d. per cwt. for y, and 10s 4½d. for common, cargoes at port of call hang ., and for anything due but not actually arrived about 9s. 9d. would have to be taken.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, TUESDAY.

e of potash still inclines to the weaker side, although price minally unchanged; but bleaching powder is distinctly firmer -invigorated inquiry, especially as regards the needs of the partment of the market, and it is said that a large bulk of to St Petersburg has been included in the business just rough. There is not much to report as regards the other chemicals, except that soda crystals quote at a fraction

rket for sulphate of ammonia is very inactive, and prices are n the down grade still, as they were last week; but the drop unwilling one and slow of rate, evincing makers' continued n early taking up Leith prompt (no forward business on nds to-day at £13. 5s. Nitrate also is quoted lower.

oils and paraffins continue quiet, although the late rise in crude petroleum has so far been maintained.

ices current are:—Soda crystals £2. to £2 2s. 6d. nett, Tyne; 8/52° £3. 12s. 6d. to £3. 17s. 6d. nett, Tyne; white alkali 10s to £5. 5s. nett, Tyne; alum in lump £5. 10s. nett, Glasgow; la, white, 74° £10. 5s., 70/72° £9. 2s. 6d, 60/62° £8. 2s. 6d., 60/62° £7. 17s. 6d., all nett, Liverpool; bleaching powder £7. 10s., nett, Tyne; saltcake, 17s. 6d.; borax, English o., and boracic acid, £37. 10s nett, Glasgow; bicarbonate of t casks, £6 10s., and 1 cwt. casks £6. 15s. nett, Liverpool; of potash, 4½d. nett, for Scotch and English deliveries (for d. nett, f.o.b. Glasgow); bichromate of soda, 3¾d. nett, for l English deliveries (for export, 3½d. nett, f.o.b. Glasgow); potash, 7¼d. less 5%, Liverpool; nitrate of soda, 10s. 9d. to 10s. ulphate of ammonia, prompt, £13. 5s. nett, f.o.b. Leith; ac, first and second white, £39. and £37. nett, any port; copper, £15. 10s., less 5% Liverpool; paraffin scale, hard 1⅞d. o 2d. per lb.; paraffin wax 120° semi-refined 2⅜d. to 2½d.; irit (naphtha), 3½d. to 4d. per gallon; paraffin oil (burning), o. 1 grade, 5d. at works, for Scotch buyers (English sales, d. lower); ditto (lubricating) 865° £3. 12s. 6d. to £3. 17s. £4. to £5., and 890/895° £5. to £6. Week's imports of at Greenock were 15,376 bags.

TYNE CHEMICAL REPORT.

TUESDAY.

ls remain without alteration, though there is better inquiry markets. Soda crystals vary from £2. 1s. to £2. 2s. 6d. Caustic soda, 76/77%, £10. 10s. and £10. 15s.; bleach, ulphur, £3. 17s. 6d. per ton.

g Powder, softs, £7. 10s. per ton, nett; hards, £7. 15s per ton, tic soda, 76/77%, £10. 15s. per ton, nett; do., 70%, £9. tt; recovered sulphur, 2 cwt. bags, £3. 17s. 6d. per ton, nett; 48%, £3. 12s. 6d. per ton, nett; do., 52%, £3. 16s. 3d. ett; do, 56%, £4. per ton, nett; alkali, 36%, £2. 15s. tt; white alkali, 48%, £4. 10s per ton, nett; do., 50%, £4. n, nett; do., 52%, £5. 5s. per ton, nett; hyposulphite of cwt. casks, £5. per ton, nett; do., 1 cwt. kegs, £5. 10s. tt; silicate of soda, 75° Tw., £2. 17s. 6d. per ton, nett; Tw., £3. 12s. 6d per ton, nett; do., 140° Tw., £4, nett; soda crystals, casks, £2. 2s. 6d. per ton. ght; do., 2 cwt. bags, £2. 2s. 6d. per ton, nett; f potash, 7½d. per lb., less 6%; pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £4. 2s. 6d. per ton, nett; blanc fixe, £7. 10s. per ton, nett; chloride of barium, £7. 10s. per ton, nett; carbonate of alumina, £28. 15s. per ton, nett; aluminate of soda, £33. 15s per ton, nett; in 5 ton lots, £28. 10s per ton, nett.

South Durham Salt is firm and scarce at about 10s. per ton, f.o.b. Tees.

Coals: The inquiry is still good and prices generally are steady on a basis of:—Best Northumbrian steam, 10s and 10s 6d; second qualities, 8s. 6d. and 9s; small steam, 4s. 9d. per ton. Bunker coals dull: Unscreened 6s 9d., up to 10s. for best screened. Coke firm and in demand, 14s. 6d. and 15s. per ton.

HULL PAINT, OIL, AND COLOUR REPORT.

TUESDAY.

OILS.—One of the most interesting announcements to traders in general to this port is that made by the North-Eastern Railway Company of a reduction in the rates of dock charges upon their system here, and no doubt it is anticipated by so doing to attract more traffic, for shipowners in chartering vessels to the United Kingdom look to the port with lowest charges in order to make the larger profit out of freights. Amongst the principal imports to this port against the same time during 1893 are the following:—Linseed 159,890 qrs., against 78,443 qrs.; rapeseed 41,209 qrs., against 15,814 qrs.; cottonseed 93,630 tons, against 96,317 tons; olive oil 6,597 casks, against 3,709 casks; rape oil 2,819 casks, against 2,695 casks; oil cakes 8,332 tons, against 6,709 tons; tallow 5,044 cwts., against 8,614 cwts.; bones 2,829 tons, against 2,616 tons; turpentine 4,300 barrels, against 3,426 barrels; guano 335 tons, against *nil*. Linseed oil has been rather easier. Market closes steady at 19s. naked spot, 18s. 7½d. to 18s. 9d. May-August, and 18s 3d. September-December. Export for the week, 2,020 cwts. Refined cotton oil on the spot is about 12s. 6d. per ton dearer, closing steady at 19s. 4½d. naked, May-August 19s. 6d.; export of refined for the week, 5,960 cwts. Turpentine, 22s 6d. per cwt. Castor oil, first pressure, from 2¼d. per lb. Rape oil continues in good demand for the best brands of refined, and rules a trifle dearer Herring oil, £15 per ton. Cod oil, coast and Newfoundland, from £17. to £19. per ton Sod oil, for tanners, curriers, etc., from £16. per ton. Pale seal oil, £20. Arctic sperm oil from £24. 10s. Brown wool grease, £8. per ton Paraffin Molle, 20s. per cwt. Engine and cylinder oils from 1s. to 2s. per gallon.

CAKES.—The improvement in the value of stock is a happy omen for agriculture, and will help the cake trade. Linseed cakes a quiet trade. Prices steady at the recent decline. 95% pure, £8. 10s. to £8 12s. 6d. per ton; Russians, £7. 5s. to £7. 10s; Polish, £7. 10s. Oil cakes, £6. 10s. to £6. 12s. 6d. Cotton cakes in fair demand for best makes, but secondary kinds neglected: Best makes, £4. 7s. 6d.; seconds, £4. 2s. 6d. to £4. 5s. Rape cakes: East India, £4. 10s.; Black Sea, £3. 12s. 6d per ton.

PAINTS.—The situation here remains good, with unchanged prices.

New Companies.

Newfoundland Chemical Wood Pulp Company, Ltd.—CAPITAL £120,000., in shares of £1. each. This company has been formed to manufacture and deal in all kinds of paper-making materials in Newfoundland and elsewhere. The subscribers to the memorandum of association are:—D. Harries, West Grange House, Edinburgh; W. B. Grieve, Greenock, N.B.; W. M. Jamieson, 4, Fenchurch-avenue, E.C; W. Grieve, 4, Fenchurch-avenue, E.C.; R. Macintosh, 2, Lime-street-square, E.C.; R. D. Fraser, 101, Leadenhall-street, E.C.; R. L. Newman, 39, New Broad-street.

Cerebos Salt Company, Limited. CAPITAL £20,000. in shares of £1. each. This company has been formed to prepare and sell a nutritive table salt and other chemicals. The subscribers to the memorandum of association are:—E. Mardson, 1, Ashfield, Gateshead, widow; J. W. Swan, Bromley, Kent, electrician; G. Weddell, 20, Grainger-street West, Newcastle-on-Tyne, chemist; J. W. France, St. John-street, Newcastle-on-Tyne, merchant; T. Hatfield Walker, 1, Pecton-place, Newcastle-on-Tyne, surveyor; J. R. Stewart, 33, Grainger-street, Newcastle-on-Tyne, tea dealer; T. Morgan, 28, Grey-street, Newcastle-on-Tyne, stationer.

Dawson, Schmidlin, and Company, Limited. CAPITAL £20,004. Shares in 4 "A" £1. and 1,000 "B" £20. shares. This company has been formed to take over and carry on the businesses of J. N. Dawson and Co., merchants, Manchester, and J. Schmidlin, calico printer. The subscribers to the memorandum of association are:—James N. Dawson, 65, Mosley-street, Manchester, merchant; Joseph Schmidlin, Bradley Fold, near Bolton, calico printer; T. K. Dawson, 13, Dale-street, Manchester, agent; Leonie Schmidlin, Bradley Fold, married woman;

G. B. Behrens, 55, Fountain-street, Manchester, merchant; E Behrens, 22, Oxford-street, Manchester, merchant; Mary Dawson, Chorley-road, Bolton, married woman.

Lee Barber's Lowestoft Oil Mills, Limited. CAPITAL £40,000. in £10. shares. This company has been formed to acquire the business now carried on by Messrs. J. Lee Barber and Co., and to trade as seed crushers, oil refiners, and oilcake manufacturers. The subscribers to the memorandum of association are:—H. E. Crawley, Lowestoft, seed crusher; R. W. Cox, 3, Rumford-street, Liverpool, merchant; E. G. Farish, 57½, Old Broad-street, E.C., solicitor; R. H. Eggar, 11, Kellett-road, S.W., solicitor; E. E. Ford, 10, Sussex Mews East, Sussex-square, W., shorthand writer; A. Farish Farish, 94, Church-street, S.W., solicitor; T. C. Richards, 107, Byrne-road, S.W., clerk.

The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of George E. Davis and Alfred R. Davis, who report professionally upon the value of Chemical Patents.

APPLICATIONS FOR ENGLISH LETTERS PATENT.

Scouring, Bleaching, and Disinfecting Wool, &c. W. H. Hughes and S F. Hughes. 7,041. April 9.

Colouring Matters of the Induline Series. C. D Abel. 7,044 April 9.

Improved Depositing Tanks for Separating Solids from Liquids. F. E. Witham 7,053. April 9.

Treatment of Sewage. F. J. Foreaux. 7,056. April 9.

Boiler Incrustation-Preventing Compounds. H. Henson and J. Mewis. 7,123. April 10.

Oxidising Drying Oils. F. Walton 7,126. April 10.

Manufacture of White Lead. R. Matthews. 7,129. April 10.

Method of Heating Brine. J. Hodkinson. 7,179. April 11.

Preventing the Corrosion of Metals with Liquid Celluloid. F. W. Oliver. 7,180. April 11.

Electro Deposition of Aluminium and Aluminium Alloys. A. F. B. Gomess. 7,205 April 11

Electro Deposition of Aluminium and Aluminium Alloys. A. F. B Gomess. 7,206. April 11.

Manufacture of Gas. W. O. Felt. 7,237. April 11.

Continuous Manufacture of Anhydrous Metallurgic Coke. L. Parent. 7,243. April 11.

Obtaining Lead Sulphate from Galena. C. P. Shrewsbury, F. L. Marshall, and J. Cooper. 7,300. April 12.

Improved Cylinders, &c, for Containing Compressed Gases, &c. E. Hesketh and A. Marcet. 7,326. April 12.

Improved Manufacture of Metallic Tubes. C. G. Larson. 7,332. April 12

Solder for Aluminium and Aluminium Alloys. S. Taylor 7,380. April 13.

Improved Evaporating Apparatus. E G. Scott. 7,388. April 13

Liquid Fuel for Boilers. E. D. Zohrab. 7,403. April 13.

Manufacture of Caustic Soda and Potash and of Nitric and Sulphuric Acids. W. Garroway. 7,412. April 14.

Jointing Metallic Tubes or Pipes. J. Malcolm. 7,425. April 14

Manufacture of Oil Paints and Compositions from Carbonised or Calcined Ironstone or Iron Ore. A. Angell. 7,465. April 14.

Improvements in the Manufacture of Paper. L. Munk. 7,486. April 14.

IMPORTS OF CHEMICAL PRODUCTS AT THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending April 14th.

Acetate of Lime—

U. States,	262 pkgs.	Lister & Biggs

Acetic Acid—

Holland,	140 pkgs.	A. & M. Zimmermann

Alkali—

Germany,	200 c.	Pillow, Jones & Co.
France,	200	Arnati & Harrison

Alum—

Holland,	148 pkgs.	Ohlenschlager Brs
,,	6	W. Burton & Sons

Anti Chlor—

Germany,	4 pkgs.	H. Lambert

Antimony Ore—

France,	30 t.	H. R. Merton & Co.
Japan,	11	Brookes & Green

Arsenic—

Germany,	20 pkgs.	H. Wallace & Co.

Barium Binoxide—

France,	17 cks.	N. S. S. Co.

Barytes—

Belgium,	23 cks	R. Bew
Germany,	78	W. Harrison & Co.
Holland,	25	W. Taylor & Co.
Belgium,	53	Burrell & Co.
,,	50 pkgs.	T. H. Lee

Camphor—

Germany,	100 cs.	Eastwood & Holt
Japan,	100	S. Figgis & Co.
,,	67 tbs.	R. & J. Henderson
,,	20 cs.	R. Warner & Co, Ltd.
,,	83 tbs.	Union L. Co., Ltd.
Hong Kong,	100 cs.	Krayer, Back & Co.

Caoutchouc—

W. C. Africa,	7 c.	Wallace Brs.
Belgium,	22	W. Balchin
Columbia,	40	Prop Bull Wf.
E. Indies,	324	N. S. S. Co.
Madagascar,	108	Procter Brs.
,,	17	Lewis & Peat
Portugal,	29	L. & I. D. Jt Co.
Rangoon,	129	,,
Zanzibar,	37	,,
,,	19	Clarke & Smith
Madagascar,	51	S. Figgis & Co.
,,	58	Kellar Carr & Co.
France,	22	H Johnson & Sons
E. Indies,	41	Ralli Brs.

Castor Oil—

E. Indies,	240 cs.	Anderson, Weber & Smith
France,	20 brls.	B. & N. Whvs. Co., Ltd.
,,	32	Beresford & Co.
,,	40	J. T. Morton
,,	5 cs.	L. & I D. Jt. Co.

Chemicals *(otherwise undescribed)*

Germany,	72 pkgs.	A. & M. Zimmermann
,,	30	T. H. Lee
U States,	17	W. H. Smith
Belgium,	3	D. C. Thomas & Sons
Holland,	£10	Phillipps & Graves
Germany,	5 cks.	,,
,,	10 pkgs.	Craven & Co.
Holland,	4	T. H. Lee
,,	8	J. Barber & Co.
,,	£15	F. Boehm
France,	10	A. Howden & Co.

Cream of Tartar—

France,	5 pkgs.	W. C. Bacon & Co
,,	8	F. C. Devon & Co.
,,	2	Maconochie Brs.
Italy,	21	Howards & Sons

Dyestuffs—

Argols

Cyprus,	21 pkgs.	H. A. Litchfield & Co.
France,	23	Ross & Deering
Italy,	1,624	B. Jacobs & Sons
,,	20	Thames S. T. & L. Co, Ltd.
Cape,	2	J. R. Thomson & Co.

Cochineal

Canaries,	13 pkgs.	Marshall & French

Cutch

E. Indies,	503 pkgs.	Ross & Deering
,,	80	Bennett S. S. Co.
Rangoon,	2,262	A. Howden & Co.
,,	3,000	Leach & Co.
,,	1,000	Anderson, Weber & Smith
,,	550	H A. Litchfield & Co.
,,	500	W. H. Cole & Co.
,,	500	Arracan Co, Ltd.

Extracts

France,	610 pkgs.	Boutcher, Mortimore & Co.
,,	105	Prop. Chmbln.'s Wf.
Austria,	400	A. J. Humphrey
U. States,	3	W. Burton & Sons
Germany,	11	T. H. Lee
,,	20	J. Knill & Co.
Belgium,	100	T. H. Lee
France,	75 drs.	Carey & Sons

Gambier

E. Indies,	4,713 pkgs.	R. & J. Henderson
E. Indies,	221	Sollas & Sons
,,	4,171	L. & I. D. Jt. Co
,,	188	J. Greig
,,	582	Brown & Elmslie
,,	945	Arbuthnot, Latham & Co

Indigo

E. Indies,	274 chts.	L & I. D. Jt Co
,,	39	Ross & Deering
,,	27	Wallace Bros.
,,	8	E. Theodore & Co.
Greytown,	2	L. & I. D. Jt. Co.
E. Indies,	53	Parry & Co.
,,	27	Croysdale & Co.
,,	69	Park, Macfadyen & Co.
,,	12	Walker, Munsie & Co.

Madder

Holland,	1 ck.	Phillipps & Graves

Myrabolams

E Indies,	41 pkgs.	Beresford & Co.
,,	853	J. Graves
,,	2,500	A. Hagan
,,	2,001	G. & H. Green
,,	316	L. & I. D. Jt. Co.

Shumac

Cyprus,	1,291 pkgs.	H. A. Litchfield & Co.
Italy,	50	J. Knill & Co.
,,	205	Bailey & Leetham
,,	570	J. Kitchin, Ltd.

Tanners' Bark

Adelaide,	27 t.	Baxter & Hoare
,,	71	Beresford & Co
Belgium,	13	Leach & Co.

Turmeric

Cochin,	473 pkgs.	Union L. Co
China,	300	Prop. Sun Wf.
Japan,	120	L. & I D. Jt Co
France,	60	Hoare. Wilson & Co.
E. Indies,	85	Prop. Bull Wf
,,	80	L. & I. D. Jt. Co.
France,	300	Beresford & Co.
Hong Kong,	76	R. Warner & Co., Ltd.

Farina—

Germany	100 pkgs.	J. Barber & Co.
France,	50	G Ward & Sons
Holland,	100	G. Hornzee

Glucose—

U. States,	500 pkgs.	500 c.	Fellows, Morton & Co.
,,	1,000	1,000	T. M. Duche & Sons
,,	120	340	L. Norman & Co., Ltd.
,,	500	500	Trier, Meyer & Co.
,,	1,257	1,290	Beck & Pollitzer
,,	800	760	L. & I. D. Jt. Co.
U. States,	500	500	Prop. Fenning's Wf.
France,	400	400	L. Norman & Co., Ltd.
Germany,	100	200	J. Barber & Co.

Guano—

Peru,	1,400 t.	Anglo-Cont. G. Wks.

Infusorial Earth—

Germany,	£13	H Bertram & Co.

Iron Oxide—

Austria,	15 cks.	Beresford & Co.

Manganese—

Japan,	50 t.	Phillipps & Graves
China,	340	,,
Japan,	115	Julius & Co.
Australia,	135	Harrold Brs.

Manure—

France,	50 t.	C. A. & H. Nicholl
,,	60	J. Burnett & Sons
Germany,	10	W. G. Blagden
Sydney,	2	Calverwell, Brooks & Co.
——	780	W. Montgomery & Co.
E. Indies,	200	A. Hunter & Co.
Germany,	200	Lawes Manure Co.
France,	18	Odam's Chmcl. Manure Co.
Belgium,	50	J. Gibbs & Co.
,,	9	H. E. Albert

Methyl Alcohol—

Belgium,	7 cks.	Lister & Biggs

Mica—

E. Indies,	£75	W. M. Smith & Son

Ochre—

France,	149 brls.	W. Harrison & Co.
,,	43 cks.	G. Ward & Sons
Holland,	6 cs.	Phillipps & Graves
Rangoon,	7 cks.	O'Hara & Hour

Paraffin Wax—

U States,	229 brls.	Mordaunt Brs.

Phosphate Rock—

Belgium,	220 t.	Odam's Chmcl. Manure Co.
France,	515	A. Hunter & Co.
,,	158	Anglo-Cont. G. Wks.
Belgium,	220	,,

Pitch—

U. States,	48 cks.	T. Simps.

Plumbago—

Ceylon,	76 brls.	Beresford & Co.
,,	124 cks.	L. & I. D. Jt. Co.
Holland,	37	B. Galloway
Italy,	100 bgs	,,
Ceylon,	70 brls.	Doulton & Co.
,,	349 cks.	J. Thredder, Son & Co.

h—
any, 4 cks. H. Lambert
sium Bicarbonate—
and, 10 c. A. & M. Zimmermann
sium Carbonate—
any, 10 cks. F. Boehm
ce, 110 c. J. A. Reid
4 F. J. Putz & Co.
any, 60 Petri Brs.
sium Chloride—
any, 100 bgs. F. W. Berk & Co.
sium Cyanide—
any, 5 pkgs. H. Lambert
sium Permanganate—
and, 10 pkgs. Beresford & Co.
ce Stone—
17 t. Bailey & Leetham
8 Acton & Borman
25 T. Hill Jones
es—
1,000 t. C. L. Vasey & Co.
1,730 Naylor, Benzon & Co.
1,970 C. Tennant, Sons, & Co.
600 Anderson, Anderson & Co.
silver—
5,000 flks. N. M. Rothschild & Sons
—
ates, 300 brls. G. Nutter & Co.
any, 7 H. Lambert
etre—
dies, 696 bgs. Lucas & Spencer's Wf.
any, 1,000 Anglo-Cont. G. Wks.
45 cks. Brown & Elmslie
8 Petri Bros.
180 P. Hecker & Co.
14,483 bgs. Anglo-Cont. G Wks.
dies, 330 Co-op. Lghtge. Co.
78 Henckell du Buisson & Co.
m Hyposulphite—
nd, 24 pkgs. Beresford & Co.
100 F. Boehm
any, 186 ,,
m Sulphate—
nd, 18 pkgs. Beresford & Co.
h—
s, 4 pkgs. L. & I. D. Jt. Co.
ates, 307 Beck & Pollitzer
m, 348 F. Rosenthal & Co.
100 Leach & Co.
450 Prop. Scott's Wf.
any, 100 Seaward Bros.
720 Horne & Co.
nd, 10 G. Rahn & Co.
140 Phillipps & Graves
1,052 Little & Johnston
102 Taylor Bros.
m, 32 A. B. Curtis & Co.
ne—
e, 180 bgs. G. Boor & Co
100 Williams, Torrey & Co.
aland, 96 cks. N. Z. L. & M. A. Co.
nd, 31 bgs. Robinson, Roberts & Co.
ur—
10 t. F. Smith
70 J. Puddy & Co.
32 T. T. Creed
m, 3 Fuerst Bros.
uric Acid—
nd, 16 pkgs. City Coml. Wf, Ltd.
v and Stearine—
ates, 24 pkgs. Rosenburg & Co.'s succrs.
any, 838 brls. Linck, Moeller & Co.
ric Acid—
nd, 39 pkgs. B. & F. Wf. Co.
5 F. C. Devon & Co.
shes—
, 2 t. Hughes, Chemery & Co.
narine—
any, 11 pkgs. Steinhoff, Sons & Co.
m, 7 brls. Leach & Co
d, 3 pkgs. G. Rahn & Co
13 Haeffner, Hilpert & Co.
h—
ies, 32 pkgs. Beck & Pollitzer
, 12 Flageollet & Co.

White Lead—
Belgium, 4 cks. A. G. Soutter & Co.
,, 25 Leach & Co.
Austria, 6 Magee, Taylor. & Co.
Germany, 36 Petri Brs.
,, 28 Colthurst & Harding
,, 19 N. J. Fenner & Co.
Holland, 50 T. & W. Farmiloe
,, 38 brls. W. Balchin
,, 38 Phillipps & Graves
France, 19 Burrell & Co
Austria, 4 cs W. Adoloph & Co
Belgium, 2 T. H. Lee
Wood Pulp—
Germany, 245 pkgs. O. Herrlich
Portugal, 300 E J. & W. Goldsmith
Norway, 1,600 ,,
Sweden, 476 C. S. Lovell
Austria, 388 Tough & Henderson
Denmark, 280 G. F. Greer & Co.
Holland, 270 W. Balchin
Norway, 2,097 Tough & Henderson
Zinc Oxide—
Holland, 50 brls. M. Ashby, Ltd
Germany, 50 ,,
Holland, 50 cks. J. Matton

LIVERPOOL.

Week ending April 12th.

Aluminium—
New York, 17 bxs. W. S. Samples
Barytes—
Bremen, 47 cks.
Antwerp, 31
Bone Meal—
Bombay, 4,340 bgs.
Borates—
San Francisco, 2,026 sks.
Caoutchouc—
Bremen, 18 cks.
Castor Oil—
Marseilles, 10 cks. J. J. Mack & Son
,, 201
Leghorn, 60 cs.
Chemicals (*otherwise undescribed*)
Rotterdam, 1 ck.
Colours—
Hamburg, 44 cs. 21 cks.
Cream of Tartar—
Barcelona, 7 cks. 5 hds.
,, 5 Sachse & Klemn
Tarragona, 1 ppe.
Dyestuffs—
Argols
Oporto, 30 cks. German Bank, London
Cutch
Rangoon, 3,953 bks.
Extracts
Rouen, 163 cks. Co-op. W'sale Society, Ld.
Fustic
Tampico, 1,118 ps. Moffatt Brs.
Gambier
Singapore, 504 bgs.
Logwood
Belize, 20 t.
Madder
Marseilles, 1 ck. J. Behrends
Myrabolams
Bombay, 11,147 bgs 337 cs.
,, 1,015 D Sassoon & Co.
Orchella
San Francisco, 317 bls.
Saffron
Valencia, 2 cs.
Turmeric
Bombay, 604 bgs
,, 99 H. Sherif & Co.
Valonia
Smyrna, 25 t. 6 bgs.
Glucose—
New York, 398 brls.
Hamburg, 22 cks.
Guano—
B. Ayres, 1,139 bgs Williamson, Milligan
Limestone—
Havre, 1 crt. Cunard S. S. Co., Ld.
Manganese Ore—
Havre, 2 cks. Cunard S.S. Co., Ld.
Poti, 1,950 t.
Mica—
New York 10 brls. Millot Brs.
Mineral White—
Fiume, 100 bgs.

Ochre—
Rouen, 43 cks. Co-op. W'sale Society, Ld.
Marseilles, 21 brls. Clay & Bennett
,, 19
Paint—
Boston, 15 cks Frazer & Co.
Colon, 1 kg.
Paraffin Scale—
Philadelphia, 1,300 brls.
Phosphates—
Dunkirk, 1,050 t.
Rotterdam, 2 cks.
Ghent, 1,500 bgs.
Potash—
Rouen, 100 cks. Co-op. W'sale Society, Ld.
Hamburg, 20
Antwerp, 5 dms.
Pumice Stone—
Leghorn, 30 cs.
Pyrites—
Huelva, 1,450 t. Matheson & Co.
Saltpetre—
Hamburg, 40 brls. 21 kgs. 12 cks.
Soap—
N. Orleans 2,308 brls.
New York, 440
Soda—
B. Ayres, 52 cks. Kirkpatrick, Barr, & Co.
Sodium Silicate—
Rotterdam, 3 cks.
Starch—
Hamburg, 136 cs.
Boston, 400 sks.
Antwerp, 430 cs. J. T. Fletcher & Co.
Rotterdam, 50 40 bxs.
Parnahyba, 5 pkgs. Leech, Harrison & Co
Stearine—
New York, 25 hhds.
Antwerp, 100 bgs.
Rotterdam, 3 cks.
Tallow—
Rouen, 167 bgs. 1½ bgs. Co-op. W'sale Society, Ld.
Havre, 1 pkgs. Cunard S.S. Co., Ld.
B. Ayres, 261½ pps. Williamson, Milligan
Tartar—
Bordeaux, 6 cks.
Tartaric Acid—
Rotterdam 5 cks.
Ultramarine—
Hamburg, 9 cks. 1 cs.
Bremen, 20
Rotterdam, 2
Waste Salt—
Hamburg, 110 t.
Wood Pulp—
Rotterdam 132 bls.
Zinc Oxide—
Antwerp, 2 cks. 20 brls.
Rotterdam, 50 cks.
Zinc Skimmings—
Boston, 10 brls.
Zinc White—
Antwerp, 25 cks.

MANCHESTER.

Week ending April 14th.

Acetic Acid—
Antwerp, 5 btls.
Barytes—
Rotterdam, 3 cks.
Castor Oil—
Rotterdam, 34 cks Simpson, Howden, & Co.
Colours—
Rotterdam, 47 brls. 25 cks. 13 bxs. Simpson, Howden, & Co.
,, 1 2 cns. 2 cs. 11 cks.
Gothenburg, 8
Antwerp, 3
Treport, 4
Dextrine—
Gothenburg, 100 bgs.
Dyestuffs—
Alizarine
Rotterdam, 58 brls. 14 pkgs. Simpson Howden, & Co.
Extracts
Treport, 6 cks.
Logwood
Morant Bay, 314 t. 15 c.
Farina—
Rotterdam, 1,000 bgs. Simpson, Howden, & Co.
,, 500
Gothenburg, 400
Glucose—
Rotterdam, 4 cks.
Limestone—
Antwerp, 2 cs.
Potash—
Rotterdam, 100 cks. Simpson, Howden, & Co
,, 15
Starch—
Rotterdam, 100 cs.
Antwerp, 20
Tartaric Acid—
Rotterdam, 6 cks.
Ultramarine—
Hamburg, 6 cks. 1 crt.
Zinc Ashes—
Rotterdam, 16 cks Simpson, Howden & Co.
Zinc Oxide—
Rotterdam, 50 brls.

HULL.

Week ending April 14th.

Acetic Acid—
Rotterdam, 51 blns. Hutchinson & Son
Acid—
Rotterdam, 2 cks. Hutchinson & Son
Barytes—
Cologne, 115 sks.
Antwerp, 90 cks. 10 bgs Bailey & Leetham
,, 19
Rotterdam, 25 Sissons Bros.
Bone Meal—
Kurrachee, 2,000 bgs.
Carbolic Acid—
Rotterdam, 13 tubes. Wilson Sons, & Co., Ld.
Amsterdam, 46 cks. W. & C. L. Ringrose
Chemicals (*otherwise undescribed*)
Stettin, 18 cks. Wilson, Sons, & Co., Ld
, 4
Bremen, 1 kg. 11 pks. Veltmann & Co.
Hamburg, 18 cks. Wilson, Sons, & Co., Ltd.
Dunkirk, 23 ,,
Antwerp, 30 51 pks. ,,
Colours—
Cologne, 8 cks.
Rotterdam, 59 10 cs. Hutchinson & Son
Flushing, 43 4 ,,
Rotterdam, 24 6 139 pks. W. & C. L. Ringrose
Amsterdam, 8 1 kg. ,,
Bremen, 7 2 pks Veltmann & Co.
,, 120 bgs. Sissons Bros. & Co.
Antwerp 78 cks. Wilson, Sons, & Co., Ld.
Dyestuffs—
Alizarine
Rotterdam, 7 cks. W. & C. L. Ringrose
,, 14 1 cs Hutchinson & Son
Madder
Rotterdam, 1 ck. Hutchinson & Son
,, 2 W. & C. L. Ringrose
Myrabolams
Bombay, 7,939 bgs.
Valonia
Smyrna, 20 t.
Farina—
Ghent, 128 cs. Wilson, S— & Co., L..
Stettin, 610 bgs. ,,
,, 600
Harlingen, 960
Glucose—
New York, 497 cks.
Stettin, 1,000 bgs.
Lime—
New York, 385 bgs Wilson, Sons, & Co., Ltd.

Manure—
Antwerp, 50 t. Wilson. Sons, & Co., Ld.
Ochre—
Rouen, 12 cks. Rawson & Robinson
" 32
Paint—
Boston, 26 cs 53 pks. Wilson, Sons, & Co., Ltd.
New York, 43 "
Bremen, 75 pks. Veltmann & Co.
Phosphate—
Ghent, 203 t. 1,616 bgs. Wilson, Sons, & Co., Ld.
" 800
Potash—
New York, 5 cks. Wilson, Sons, & Co., Ld.
Pyrites—
Huelva, 1,365 t.
Rosin—
Bordeaux, 13 cks. Sissons Bros. & Co.
Rotterdam, 2 W. & C. L. Ringrose
Salt—
Hamburg, 608 bgs.
Soap—
Boston, 4 cs. Wilson, Sons, & Co , Ld.
Soda—
Rotterdam, 4 cks. W. & C. L. Ringrose
Bremen, 4 pks. Veltmann & Co.
Starch—
Amsterdam, 54 cs. W. & C. L. Ringrose
Bremen, 952 Veltmann & Co.
Antwerp, 58 Wilson, Sons, & Co., Ld.
Tar—
Bergen, 2 brls. Wilson, Sons, & Co., Ld.
Tartar—
Bordeaux, 10 cks. Rawson & Robinson
Tin Oxide—
Rotterdam, 5 cks. Hutchinson & Son
Varnish—
New York, 9 pks. Wilson, Sons, & Co., Ltd.
White Lead—
Cologne, 93 cks.
Antwerp, 54 Bailey & Leetham
Rotterdam, 28 W. & C. L. Ringrose
Wood Pulp—
Hango, 347 bls. Furley & Co.
Zinc Oxide—
Rotterdam, 8 cks.
Zinc White—
Antwerp, 30 cks. Bailey & Leetham

GLASGOW.

Week ending April 19th.

Acetate of Lime—
New York, 350 bgs.
Aniline—
Rotterdam, 1 cs. J. Rankine & Son
Asbestos—
Boston, 112 sks.
Barium Sulphate—
Antwerp, 100 bgs. 19 cks.
Barytes—
Rotterdam, 46 cks. J. Rankine & Son
" 3 pkgs.
Bone Meal—
Bombay, 5,888 bgs.
Carbonic Acid Gas—
Rotterdam, 60 tbs. J. Rankine & Son
Castor Oil—
Marseilles, 81 brls. 15 cs.
Antwerp, 57 cks.
Chemicals *(otherwise undescribed)*
Rouen, 12 cks.
Chrome Alum—
Rotterdam, 5 cks. J. Rankine & Son
Colours—
Rotterdam, 9 cks 1 cs. J. Rankine & Son
" 17 pkgs.
Amsterdam, 2
Cream of Tartar—
Marseilles, 3 cks.
Dyestuffs—
Alizarine
Rotterdam, 4 cks, J. Rankine & Son
" 73 pkgs.
Extracts
Rouen, 5 cks.
Philadelphia, 50 brls.
Boston, 6
Antwerp, 9 cks.
Logwood
Jamaica, 468 t. 11½ c. M'Arthur, Scott, & Co.
" 232
M. Christo, 600 "
Madder
Rotterdam, 2 cks. 1 pcl. J. Rankine & Son
Marseilles, 3
Shumac
New York, 60 bgs.
Farina—
Hamburg, 100 bgs.
Glucose—
New York, 100 brls.
Lead Acetate—
Hamburg, 26 cks.
Ochre—
Marseilles, 261 pks. 65 cks.
Paraffin Wax—
Philadelphia, 500 brls.
Phosphates—
Ghent, 1,000 bgs.
Pitch—
Antwerp, 9 cks.
Amsterdam, 12 E. W. Fischel & Co.
Rosin—
New York, 900 brls
Saltpetre—
Hamburg, 20 cks.
Soap—
Baltimore, 345 brls.
Starch—
Rotterdam, 40 cs J. Rankine & Son
Stearine—
Rotterdam, 17 cks. J. Rankine & Son
Tallow—
New York, 20 tcs.
Ultramarine—
Rotterdam, 10 cs. J. Rankine & Son
Varnish—
New York, 9 cs. 167 brls.
Waste Salt—
Hamburg, 1,952 bgs. 160 cks.
White Lead—
Rotterdam, 88 cks. J. Rankine & Son
Wood Pulp—
Gothenburg, 334 bls.
Christiania, 792
Zinc Oxide—
New York, 30 brls.
Rotterdam, 35 cks. J. Rankine & Son
Zinc White—
Rotterdam, 150 cks. J. Rankine & Son

TYNE.

Week ending April 14th.

Alum Earth—
Hamburg, 54 cks. Tyne S. S. Co.
Asbestos—
Rotterdam, 5 trs. Tyne S. S. Co.
Barytes—
Rotterdam, 46 cks. Tyne S. S. Co.
Colours—
Rotterdam, 2 cks Tyne S. S. Co.
Antwerp, 4 brls. "
Hamburg, 3 "
Minium—
Rotterdam, 8 cks. Tyne S. S. Co.
Pyrites—
Huelva, 1,675 t.
Huelva, 2,959 t. Scott Bros.
Saltpetre—
Hamburg, 300 t. Clephans & Wiencke
" 3 cks. Tyne S. S. Co.
Soapstone—
Christiania, 1 cs.
Soda—
Antwerp, 9 cks. Tyne S.
Starch—
Antwerp, 8 cs. Tyne S.
Sulphur Ore—
Pomaron, 956 t. Mason &
Ultramarine—
Hamburg, 2 crts. 2 cs.
S.
White Lead—
Antwerp, 34 brls. Tyne S.
Wood Pulp—
Gothenburg, 121 pkgs.
Christiania, 40 bls.

GOOLE.

Week ending April 11th

Acetic Acid—
Antwerp, 20 blns.
Caoutchouc—
Boulogne, 1 ck.
Dyestuffs—
Alizarine
Rotterdam, 38 pkgs.
Logwood
Belize, 900 t.
Jamaica, 468
Hamburg, 41
Madder
Rotterdam, 7 cks. 2 pkgs.
Dyestuffs *(otherwise undescr*
Ghent, 8 cks.
Boulogne, 13 4 cs. 4 pk
Farina—
Hamburg, 2,218 bgs.
Delfszyhl, 150
Glucose—
Calais, 100 bgs.
Iron Oxide—
Delfszyhl, 459 t.
Potash—
Antwerp, 3 dms.
Calais, 4 19 cks.
Dunkirk, 72 33
Saltpetre—
Rotterdam, 85 bgs.
Waste Salt—
Hamburg, 567 t. 40 cks. 1,00

GRIMSBY.

Week ending April 14th

Caoutchouc—
Rotterdam, 4 cs.
Hamburg, 6
Farina—
Hamburg, 190 bgs.
Zinc Ashes—
Antwerp, 14 cks.

EXPORTS OF CHEMICAL PRODUCTS

OF

THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending April 18th.

Alum—
Brisbane, 18 c. £6
Alum Cake—
Melbourne, 5 t. £14
Ammonia (Liquid)—
Brisbane, 20 dms. £11
Ammonium Carbonate—
Santos, 9 c. £28
Otago, 1 ck. 10
Bordeaux, 10 pkgs. 5 brls. 68
Ammonium Chloride—
Dunedin, 1 t. £26
B. Ayres, 5 c. 10
Constantinople, 2 10 93
Salonica, 6 11
Ammonium Sulphate—
Martinique, 33 t. 6 c. £462
Valencia, 150 2,100
Barbadoes, 220 11 3,121
Ostend, 33 405
Cullera, 101 1,414
Amsterdam, 122 1,703
Newport News, 52 3 755
Ghent, 78 10 1,065
Anhydrous Sulphuric Acid—
Batoum, 20 t. £400
Arsenic—
Sydney, 16 c. £16
Bisulphite of Lime—
Bombay, 5 t. 5 c. £57
Bone Meal—
Jamaica, 9 t. 5 c. £48
Boracic Acid—
Wellington, 1 ck. £8
Borax—
Brisbane, 5 kgs. £8
Keppel Bay, 1 ck. 7
Algoa Bay, 9 c. 33
Sydney, 12 18
Melbourne, 1 t. 29
Hamburg, 6 cks. 48
Carbolic Acid—
Rotterdam, 88 cks. £445
Malta, 4 c. 7
Halifax, 11 22
Gisborne, 10 dms. 9
Carbon Bisulphide—
Adelaide, 1 t. 10 cs. £36
Carbonic Acid Gas—
Lyttelton, 1 t. 12 c. £100
Caustic Potash—
Napier, 1 t. 2 c. £36
Caustic Soda—
Hong Kong, 5 c. £9
Melbourne, 1 t. 10 70
Auckland, 10 3 117
Durban, 12 16
Cleveland Bay, 11 24
Sydney, 14 19
Dunedin, 10 7
Algoa Bay, 1 4
Chemicals *(otherwise undescr*
Calcutta, 11 cs.
Cape Town, 3
Adelaide, 5 dms.
Brisbane, 16 c.
Lisbon, 18
Auckland, 4 cks
Huelva, 10 9
Citric Acid—
Brisbane, 1 cs.
Bombay, 3
Melbourne 42 kgs.
Rotterdam, 5 6 c.
Hamburg, 12 cks. 10
Odessa, 2
Gothenburg, 5
Townsville, 3
Durban, 2

	10 cks.		£76
		6 c.	46

ducts—

ine

	25 cks.	£350
on,	6 pkgs.	89
ie		
ne,	1 cs.	£6
	1	9

l

m,	46 dms. 60 pns.	£949
g,	5	38
,	50 cks.	161
	12	113

Tar Dyes

, Nfld ,	2 cs.	£43

ote

ors,	10 brls.	£8

ha

ne,	25 dms.	£17
	25 brls.	63
	13 cs.	16

haline

	100 bgs.	£38
k,	135 cks.	187
	1	10

in Wax

	202 cs.	£530
ne,	100	222
	10	34
	938 t.	£1,408
k,	500 cks.	265
renas,	13	9
ia,	20 brls	14
inople,	200	70
	20 cs.	6
	2,399 t.	3,173
elle,	520	598
t,	643	964
ors,	60	83
ire,	1,696	2,240
	700	919
	10 brls.	7
	250	115

and Tar

a,	14 brls.	£10
s,	200 dms.	£5
lay	124 pkgs.	9
ne,	40 brls.	30
ors,	1,265	606
	15	13
	250	116

il

	26 brls.	£18
g,	17 cks.	48

alts

g,	4 cks.	£7
s,	2	22
l		
m,	20 pns.	£226

oducts (*otherwise undes.*)

ne,	40 brls.	£42

Sulphate—

	4 t. 19 c.	£75
	27 13	400
	5 10	80
	10	8
on,	10	165
	60	90
	5 2	76
	10	156
	10	8
	10	175
s,	49 10	792

f Tartar—

on,	2 cs.	£12
	2 t. 10 c.	168
	4 1	266
	2	136
on,	5	18
	4	14
l,	2	8

tants—

	144 dms.	£17
	50 12 cs.	24
	1 t. 5 c.	30
ong,	106 pkgs.	36
	3	8
e,	225 dms.	70
	12	27
,	10	13
ie,	1 cs.	11
g,	45 cks.	225
	13	31

of Sulphur—

y,	4 t. 9 c.	£51

Acid—

ne,	1 cs.	£7
a,	6 t.	£60
a,	30	340
e,	25	250
	10	100

Manure—

Martinique,	177 t.	18 c.	£1,016
Jamaica,	87		946
Barbadoes,	61	3	663
Demerara,	25		288
Grenada,		10	12
Rotterdam,	15		124
Las Palmas,	7		30
Libau,	148	4	407
Rouen,	15		105
Treport,	49	15	300
Cullera,	599		4,782

Metallic Sodium—

Melbourne,	1 cs.	£11

Nitric Acid—

Madras,	6 cs.	£9
Huelva,	2 t. 5 c.	50

Oxalic Acid—

Dunkirk,	5 t.	£155

Phosphorus—

Sydney,	1 c.	£10

Potash—

Jamaica,	2 c.	£7

Potash Crystals—

Brussels,	3 cs.	£100
Auckland,	5 cks.	80
Toronto,	13 pkgs.	150

Potash Salts—

Delagoa Bay,	8 t. 14 c.	£960

Potassium Bicarbonate—

Keppel Bay,	1 ck.	£9

Potassium Cyanide—

Sydney,	9 t.	5 c.	£882
Normanton,	6		576
New York,		10	40
Calcutta,		2	12

Potassium Prussiate—

Lyttelton,	16 c.	£84
Kobe,	12	59
Huelva.	2	11

Pyrogallic Acid—

Shanghai,	4 c.	£17

Saltpetre—

Keppel Bay,	1 t.	2 c.	£24
Algoa Bay,		9	11
Natal,		10	11
Melbourne,	2	10	57
Rio de Janeiro,	4	6	101
Bahia,	8	17	208
Cleveland Bay,		11	11

Salts of Soda & Salts of Lime—

Brussels,	2 cs.	£17

Sheep Dip—

Calcutta,	75 dms.			£18
Melbourne,	250 cs.			750
B. Ayres,	5 t.	9 c.	250 dms.	234
Adelaide,		16		40

Soda—

Algoa Bay,	3 t.	6 c.	£8
Alexandria,	1		4
Cape Town,	2	4	7

Soda Ash—

Oporto	5 t.	3 c.	£83

Soda Crystals—

Huelva,	1 t.	16 c.	£7
Alexandria,		18	4

Soda Salts—

New York,	20 cks.	£115

Sodium Bicarbonate—

Townsville,	1 t.		£7
Wellington,		10 c.	4
Auckland	4	1	28

Sodium Hyposulphite—

Calcutta,	6 cks.	£12

Sodium Nitrate—

Grenada,	1 t.	1 c.	£11

Sodium Silicate—

Lyttelton.	1 t.	2 c.	£7
Sydney,	15		71

Sulphur—

E. London,	8 t.	19 c.		£95
Natal		10		6
Mossel Bay,	17	17		203
Cape Town,			500 pkgs.	372
B Ayres,	1	10		23

Sulphuric Acid—

Aden,	10 cs.		£9
Cape Town,	4		6
Penang,	2 t.	7 c.	40

Superphosphate—

Barbadoes,	32 t.		£128
Bluff	25		75

Tartar—

Jersey,		6 c.	£17

Tartaric Acid—

Algoa Bay,	3 kgs.		£15
Adelaide,		10 c.	50
Melbourne,		5	24
Auckland,		5	24
Hamburg,	1 ck.		25
Brisbane,		10	48
Napier,		3	14
M. Video,	2		47
Sydney,		10	48

LIVERPOOL.

Week ending April 18th.

Alum—

Santos,	4 t.	18 c.		£26
Carril,	1	1		5
Galatz,	7	7		36
Rio de Janeiro,	1	2		7
Ibrail,	2			10
Sydney,	4	19		28
Melbourne	1	8		10
Adelaide,	2	10		17
Smyrna,	14	17		80

Aluminous Cake—

Calcutta,	18 t.	17 c.	1 q.	£69

Ammonium Carbonate—

N. Orleans,	1 t.	7 c.		£44
Stettin,	1	6	1 q.	46
Genoa,	2			70
Marseilles,		5		7

Ammonium Chloride—

St. Petersburg,	5 t.	18 c.	3 q.	£190
Rouen,		10		20
Philadelphia,	20	14		529
Galatz	1			37
Alexandria,	5			155
Cadiz,		7	2	14
Syra,		2	3	5
Constantinople,		4		7
Alexandretta,		6		11
Montreal,	1	16		43

Ammonium Sulphate—

Hamburg,	5 t.	4 c.		£71
Barcelona,	40	4		547
Valencia,	80			1,031
Las Palmas,	25		1 q.	353
Ghent,	21	1		283
Marseilles,	10			146

Antimony—

Montreal,	5 cks	

Asbestos—

Batavia,	1 cs	
Sourabaya,	1	
Guadalajara,	1	

Bleaching Powder—

Boston,	510 cks.		
New York,	475	50 brls.	
Portland, Me.,	21		
Rouen,	31		
Calcutta,		210 cs.	
Genoa,	38		
Pasages,	17		
San Francisco,		33	
Seville,	23		
Venice,	19		

Boracic Acid—

Antwerp,	2 t.	14 c.		£71
Hamburg,	1	11		58
Portland, Me.,		13	3 q.	26

Borax—

Rotterdam,	4 t.	18 c.		£150
Santos,		17	2 q.	26
Galatz,		3		5
Havre,	1	6	1	30
Sydney,	1	14		45
Ibrail,		9	2	15
Hamburg,	13	15	3	369
Antwerp,		18	3	24
E. London,	1	4		34
Dunkirk,		3	3	5
B. Ayres,		7	3	11

Carbolic Acid—

Newport News,	12 t.	10 c.		£500
Hamburg,	11	9	2 q.	597
Rouen,	1	2		70
Alexandria,		4		12

Castor Oil—

Canada,	1 cs.	

Caustic Potash—

Vera Cruz,		1 c.	3 q.	£6

Caustic Soda—

Babia,	20 dms.		
Boston,	200	25 brls.	
Fremantle	40		
Melbourne,	189		
M. Video	10		
New York,	440		
Penang,	185		
Pernambuco,	30		
Salonica,	35		
Samarang,	14		
Stockholm,	12		
Aracaju,	10		
Barcelona,	200		
Bilbao,	69 dms.		
Bombay,	5	4 kgs.	
Brisbane,	34		
Calcutta,	40	8	
Catania,	76		
Corunna,	20		
Hamburg,	110		
Hamilton, Ont.,	80		
Havana,	40		
Hiogo,	180		
Hong Kong,	20	2 cks.	
Kurrachee,		11 kgs.	
London, Ont.,	100		
Montreal,	450		
N. Orleans,	70		
Odessa,	207		
Oporto,	50	21	
Pekalongan,	40		
Quebec,	165		
Rio Grande,	40		
Rotterdam,	100 bxs.		
Rouen,	69		
San Francisco,	50		
St. Domingo,	28		
Seville,	240	12 cks.	
Singapore,	12		
Susa,	100		
Talcahuano,	50		
Toronto, Ont.,	50		
Valparaiso,	60		
Vigo,	15		

Chemicals (*otherwise undescribed*)

Newfairwater,	1 t.		1 q.	£37
Samsoun,		4 c.		7
Alexandria,	2			72
Volo,		15	1	28
Lagos,	1 cs.			17
Genoa,	3			108
Barcelona,		13		24
Mersyne,		6		11
Venice		15		27
Philadelphia,	13	2		324

China Clay—

Boston,	1,113 t.	16 c.
New York,	50	
Bombay,	225	
N. Orleans,	15	
Rio de Janeiro,	6	
Tampico,	3	5

Chloride of Lime—

Port Louis,	2 t.	£21

Chrome Ore—

Terneuzen,	4 cks.	

Citric Acid—

St. Petersburg.	1 t.	5 c.	£188

Coal Products—

Aniline Colours

Calcutta,	5 brls.
Shanghai,	50 cs.
Sfax,	3
New York,	3 kgs. 3 cks.
St. Petersburg,	1 cs.

Aniline Oil

Rouen,	9 dms.

Aniline Salts

New York,	14 cs.
St. Petersburg,	28 pns.

Naphtha Colour

New York,	13 cks.

Naphthol Oil

New York,	6 cks.

Naphthalene

Antwerp,	116 t.

Pitch

Brindisi,	1,720 t.	17 c.
Galatz,	30 brls	

Tar

Fremantle,	20 dms.	
Galatz,	125 brls.	
Hamburg,	50	
Sulina,	20	
Bey Beach,	10	
Manila,	100	
Montreal,	2 cks.	
Old Calabar,	12	
Philadelphia,	250	

Tar Oil

Algoa Bay,	25 cks.	
Stettin,	4 dms.	

Cobalt Oxide—

Antwerp,	2 c.	£55

Copperas—

Santos,	5 t.	6 c.	1 q.	£9
Las Palmas,	30	1	3	60

Copper Sulphate—

Tampico,	4 t.	19 c.			£381
Venice,	174	9	3 q.		2,658
Patras,	15	19	2		247
Brindisi,	20	5	2		308
Fiume,	12	5	3		187

Oporto. 49 741
Marseilles, 52 12 2 837
Leghorn, 34 19 540
Cette, 300 3 1 4,800
Seville, 3 6 2 52
Rio de Janeiro, 1 6 3 21
M. Video, 2 13 41
Lisbon, 10 16 3 168
Santos, 19 2 17
Constantinople, 4 2 2 64
Alexandretta, 10 8
Rouen, 59 5 922
Naples, 52 4 3 796
Genoa, 212 3 1 3,324
Trieste, 17 16 3 268
Dakar, 6 6
Vigo, 12 1 10
Bordeaux, 90 3 1 1,380
Bayonne, 14 17 2 240
Messina, 3 18 3 61
Charlotte Town, 9 1 7
Bonny, 10 8

Disinfectants—
Rangoon, 1 t. 5 c. £8

Dried Blood—
Huelva, 3 t. 4 c. £28
Rouen, 10 76
Las Palmas, 6 3 51

Farina—
Calcutta, 40 cks.

Flowers of Sulphur—
Lisbon, 3 t. 6 c. 1 q. £27

Lime—
Monrovia, 12 t.
Addah, 6 15 c.
Gibraltar, 2 cks.

Litharge—
Constantinople, 20 kgs.

Magnesium Sulphate—
Rio de Janeiro 33 brls.

Manganese Ore—
Algoa Bay, 2 t. 9 c.

Magnesia—
Lisbon, 1 t. 6 c. 2 q. £20
Valencia, 10 14

Manure—
St. John's, N'fd, 1 t. 4 c. £12
Bordeaux, 1 6 8

Metallic Sodium—
Rotterdam, 9 t 3 c. 2q. £1976

Nitric Acid—
Shanghai, 3 c. £5

Ochre—
St. John's, N'fd., 40 kgs.

Oxalic Acid—
Barcelona, 5 t 12 c £165
Boston, 11 16 3 q. 314

Paint—
Alexandria, 120 dms.
Axim, 3 cks.
Barcelona, 1 bx.
Barranquilla, 180 kgs.
Bilbao, 1
Calcutta, 3
Hamburg, 20 2 cs.
Kingston, Jam., 2 175
Lisbon, 91 8
Maranham, 5
Montreal, 13 21 3 5
St. John's, N'fd, 9
St. Thomas, 1 75
Tripoli, 30
Vera Cruz, 8 crts.
Cadiz, 35
Camocim, 60
Havana, 30 9
Melbourne, 7
New York, 8 2
Opobo, 4
Para, 20
Port au Prince, 4
Rotterdam, 22
St. Domingo, 10
Savanilla, 120
Sierra Leone, 13

Painters' Colours—
Bahia, 52 kgs. 10 brls.
Baltimore, 125 cks
Cape Town, 16 2 1 cs. 12 dms
Fremantle, 89 pkgs.
Halifax, 30
Havana, 4 bls. 6
Leghorn, 4
Loanda, 6 brls.
Manaos, 14
Maranham, 3
Matanzas, 4
M. Video, 107
Montreal, 50 31 39
Nassau, 185 10 1
Para, 1
Pern'mb'co, 30 20 35
Port au Prince, 15
St. John's, N.B., 5 kgs. 10 6 brls.
Valparaiso, 50
Alexandria, 20
Barcelona, 78 dms.
Bonny, 1
Bordeaux, 75
Boston, 10
Calcutta, 16
Ceara, 25
Gothenburg, 103 bgs.
Ibrail, 30
Jaffa, 3
Lisbon, 32
Manila, 500 8 8
New York, 7 70
St. John's, N'fd., 8
Talcahuano, 55 cs. 24

Paraffin Wax—
Rio de Janeiro, 4 cs
Alexandria, 5

Phosphate—
Barcelona, 10 t. 2 q. £38

Phosphorus—
Vera Cruz, 8 c. £100

Plumbago—
Valparaiso, 10 cks.
Santander, 1

Potassium Carbonate—
B. Ayres, 17 c. 3 q. £22
Sta Cruz, 5 5

Potassium Chlorate—
St. Petersburg, 11 t. 13 c. £679
Stettin, 1 61
Copenhagen, 4 274
Melbourne, 2 122
New York, 52 3,020
Boston, 12 10 758
Ceara, 2 5
Shanghai, 4 5 250
Yokohama, 2 10 147
Barcelona, 6 22
Havana, 2 10 156
Genoa, 5 15
Alexandria, 10 30
Corunna, 10 38
Hiogo, 19 1,123

Pumice Stone—
Valparaiso, 8 cks.

Rosin Oil—
Hamburg, 6 brls.

Salt—
Algoa Bay, 6 t.
Amsterdam, 100
Antwerp, 450
Boston, 512
Brisbane, 391
B Ayres, 57
Calcutta, 16,313
Cameroons, 66 14 c.
Charlotte Town, 50 10
Conakry, 25
Ghent, 200
Melbourne, 136
Mossuco, 22 14
Odense, 460
Old Calabar, 10
Philadelphia, 37 10
Rangoon, 988
Rio de Janeiro, 2 18
Rotterdam. 140
St. John, N.B., 400
San Francisco, 636 5
Sierra Leone, 8
Sydney, 302 2
Belleville, 9 5
Christiania, 17
E. London, 8 18
Faroe Is., 154
Montreal, 77 10
Para, 100
Pernambuco, 15
Quebec, 12 2
Trinidad, 10 14
Wales, Ont., 6 5

Salt Cake—
Baltimore, 69 t. 17 c. £126

Saltpetre—
Ceara, 2 t 9 c. £58
Maranham, 10 2 q. 11
Rio de Janeiro, 1 6 2 31
Aracaju, 5 14 1 135
Maceio, 1 1 2 25
Algoa Bay, 5 6
Halifax, 13 14

Sheep Dip—
San Francisco, 6 t. £200
Rosario, 2 6 c. 1 q. 58
M. Video, 3 18 2 83
B. Ayres, 14 13 3 394
Montreal, 2 5 47

Soap—
Accra, 214 bxs 6 cs.
Algoa Bay, 2,761 5
Antwerp, 12
B. Ayres, 5 cs. 6 cks.
Cameroons, 250
Cape Lahon, 30
Cape Town, 1,050
Copenhagen, 40
E. London, 713
Ghent, 12
Gibraltar, 307
Hong Kong, 400
Limassol, 1
Lome, 30
Macassar, 500
Mauritius, 2,000
Monrovia, 55
New York, 345 41 2 dms.
Opobo, 500
Pt. Elizabeth, 50
Pt. Natal, 2,128
St. John's, Nfld ,765
St. Thomas, 275
Santos, 1
Shanghai, 1,668
Singapore, 1,400 50
Barbadoes, 300
Berne. 120
Bombay, 8
Calcutta, 5
Canada. 3
Christiania, 120
Constantinople, 31
Curacao, 244
Dominica, 70
Genoa, 100
Ibrail, 5 brls.
Limon, 10
Lucea, 100
Maranham, 1
Montego Bay, 656
Rouen, 35
Savannah la Mar, 150
Smyrna, 20
Sydney, 1,480
Trinidad, 500

Soda Alkali—
Adelaide, 70 brls.
Brisbane, 15
Lisbon, 100
Melbourne, 120
Montreal, 150
Santo Domingo, 35
Toronto, 35

Soda Ash—
Bombay, 8 cks.
Boston, 78 1,080 bgs.
East St. Louis, 121 334
Fremantle, 34
Hamburg, 250
Maranham, 60
Montreal, 15 100
Napanee, 19 tcs.
New York, 65 3,818 64
Philadelphia, 1,600 128
Santander, 42
Valparaiso, 5 5 brls.
Yokohama, 100
Baltimore, 98 536
Barcelona, 21
B. Ayres, 125
Calcutta, 75
Catania, 25
Coaticook, 20
Genoa, 36
Hespelier, 13
Johannesburg, 20 kgs.
Newport News, 680
Para, 6
Paris, Ont., 100
Pekalongan, 6
Rio de Janerio, 50
Rouen, 200
Singapore, 60
Smyrna, 400
Stettin, 180
Toronto, Ont, 46 tcs.
Volo, 10
Yokohama 50

Soda Crystals—
Fremantle, 34 cks.
New York, 140 118 brls
Philadelphia, 140 2,000 bgs.
Boston, 476
Brockville, 25 kgs.
Calcutta, 33 33
Cape Town, 14
Constantinople, 150
Hamilton, Ont., 75 200
Kingston, Jam., 50
London, Ont., 40 110
Pt. Elizabeth, 23
Quebec, 208
St. John's Nfld., 30
Santo Domingo, 67
Talcahuano, 25
Valparaiso, 100 200

Sodium Arseniate—
New York, 3 cks.

Sodium Biborate—
Antwerp, 33 cks.
Hamburg, 20
Portland M., 33 brls.
Rotterdam, 4

Sodium Bicarbonate—
Adelaide, 25 kgs.
Barcelona, 70
Beirout, 20 10 brls.
Bilbao, 50
Colombo, 6 cks.
Havre, 284
Kingston, Jam., 20 10
Konigsberg, 102
Leghorn, 30
Melbourne, 350
Nagasaki, 200
Pueblo Cabello, 10
Santos, 10
Antwerp, 44 6
Bombay, 300 2
Boston, 200 10
Brockville, 50
B. Ayres, 100 50
Calcutta, 10
Hamburg, 143 18 5
Hamilton. Ont., 200 10 25 b
Kurrachee, 100
Limon, 50
London, Ont., 25 5
Patras, 20
Pt. Natal, 40
St. John's, Nfld ,17
St. Stephen, N.B., 180
Toronto, Ont., 30 100
Valencia, 120 10

Sodium Chlorate—
Hamburg, 4 cks. 20 kgs.
New York, 100
Rotterdam, 10

Sodium Silicate—
Barcelona, 35 brls.
Fremantle, 6

Sodium Stannate—
Rouen, 1 ck.

Sulphur—
Pernambuco, 1 t. 2 c. 3 q.
Ceara, 9 3
Charlotte Town, 1 10
Boston, 300 3 7
Superphosphate—
Barcelona, 10 t.
Las Palmas, 20 3 c.
Nantes, 69 6 1 q.
Valencia, 10
Hamburg, 50

Tartaric Acid—
Rangoon. 3 c.
Barranquilla, 1 1 q.
St. Nazaire, 4 2

Turpentine—
Aux Cayes, 2 brls.
Manaos, 20 dms.

Varnish—
Leghorn, 9 cs.
Oporto, 1
Quebec, 5 5 cks. 1 dm.
Rotterdam, 5 1
Valparaiso, 20
Alexandria, 2
Catania, 1
Montreal, 11 2
Pernambuco, 4

Whiting—
Coquimbo, 20 brls.
New York, 32 cks.
St. John's, Nfld ,51

Zinc Chloride—
Bombay, 10 t. 2 c. 1 q. £

Zinc Oxide—
Ceara, 20 brls.

MANCHESTER

Week ending April 19th.

Aniline Oil—
Rotterdam, 3 dms.
Hamburg, 30 31 cks. 20 tins

Carbolic Acid—
Rotterdam, 81 cks.

Chemicals *(otherwise undet.)*—
Rotterdam, 15 cks.

Colours—
Rotterdam, 3 brls.
Rouen, 1 ck.

Dyestuffs—
Extracts
Rotterdam. 6 cks.
Sumac Extract
Hamburg, 1 ck.

Dyestuffs (*otherwise undescrib*
Rouen, 2 cks.

ıa—
erdam, 8 cks.
ım Arseniate—
erp, 8 brls.
erdam, 4 cks.
Oil—
erdam, 7 dms. 10 tins

HULL.

Week ending April 14th.

i—
go, 3 cks.
in, 24
onium Sulphate—
erp, 1,183 bgs.
it, 100
erdam, 744
ne Salts—
York, 25 cs.
hing Powder—
n, 100 cks.
go, 12
in, 295
—
erp, 18 cks.
gne, 13
gsberg, 2
ic Soda—
ig, 174 dms.
go, 2 cks.
icals (*otherwise undescribed*)
erp, 10 cs.
erdam, 16 pks.
en, 1 ck.
bay, 20
tiania, 4 2
nhagen, 90 pkgs.
gne, 25
ig, 10 22 pks.
theim, 358 slbs.
ning, 16 dms.
enburg, 5
burg, 136 cs. 5
ingen, 20
gsberg, 5 4
a. 3
York, 4
erdam, 54 25
in, 5
nseed Oil—
erp, 974 c.
en, 518
gne, 1,303
eldorf, 254
burg, 774
erdam, 2,508
n, 200
ingen, 402
uffs (*otherwise undescribed*)
erp, 100 bgs.
ig, 1 cs.
ed Oil—
erp, 25 c.
en, 81
n, 53
bay, 122
tiania, 655
nhagen, 41
gne, 52
tiansand, 41
theim, 59
burg, 154
go, 104
nger, 17
n, 14
al White—
en, 3 t.
erdam, 200 bgs.
—
nhagen, 3 cks.
burg, 38
gsberg, 3
erdam, 2
—
erp, 11 cks.
ers' Colours—
erp, 2 cs. 65 cks. 56 dms. 58 pks.
erdam, 7
en, 5
n, 41 50
en, 4
bay, 50 cs. 40
tiania, 4 2
nhagen, 46
gne, 3
tiansand, 65
ig, 14
theim, 5 cs.
irk, 1
eldorf, 1 2 pkgs.
Flushing, 13
Hamburg, 44
Hango. 10
New York, 61
Rotterdam, 1 27 27
Stettin, 85 1
Pitch—
Antwerp, 531 t.
Dunkirk, 72
New York, 120 bgs.
Salt—
Hango, 6 bgs.
Slag—
Danzig, 500 t.
Rouen, 30 bgs.
Stettin, 257 t. 5 c.
Soap—
Gothenburg, 3 qrs. 2 cs.
Tallow—
Flushing, 8 cks.
Gothenburg, 5
Rotterdam, 21
Tar—
Amsterdam, 18 cks.
Bremen, 5
Hamburg, 8
Konigsberg, 1
Ruhrort, 1 brl.
Varnish—
Antwerp, 1 cs.
Amsterdam, 6 cks
Copenhagen, 1 4
Danzig, 1
Hamburg, 17
Rotterdam, 5

GLASGOW.

Week ending April 19th.

Acid—
Rangoon, £27
Aluminous Cake—
Dunedin, 9 t. 4¼ c. £23
Ammonium Sulphate—
W. Indies, 151 t. 16½ c. £2,117
Demerara, 116 17 1,760
Bleaching Powder—
Dunedin, 1 t. 19¼ c. £17
Sydney, 4 18 43
Borax—
Quebec, 2 t. 5 c. £63
Castor Oil—
Hungary, 1 t. 11½ c. £36
Caustic Soda—
Dunedin, 5 t. 5¼ c £43
Sydney, 16 16 196
Straits, 7 4 60
Chemicals (*otherwise undescribed*)
Fremantle, 2 t. 3¼ c. £150
Coal Products—
Alizarine
Lisbon, £26
Alizarine Colour
Dunedin, 13¾ c. £75
Alizarine Oil
Lisbon, 1 t. 3¼ c. £24. 12s.
Creosote Oil
Bordeaux, 116 t. 13 c. £260
Christiania, 10 brls. 6
Naphtha
Bordeaux, 9 t. 11¾ c. £125
Pitch
Italy. 497 t. 15 c. £448
Christiania, 5 14
Dunkirk, 497
Antwerp, 69 3 73
Amsterdam, 200 280
Quebec, 56 19 120
Tar
Rangoon, 24 t. £46
Bombay, 131
Danzig, 950 brls.
New York, 107 t. 11 c. 140
Coal Tar Products (*otherwise undescribed*)—
Rotterdam, 39 dms. £413
Cottonseed Oil—
Hungary, 4 t. 1 c. £87
Dyestuffs—
Cutch
Boston, 5 t. 16 c. £160
New York, 5 16 160
Extracts
Boston, 7 t. 4½ c. £212
Logwood
Lisbon, 8 t. 9 c. £70
Farina—
Philadelphia, 1 t. 10 c. £21
Linseed Oil—
Dunedin, 15 t. £359
Quebec, 27 15½ 560
Manure—
Italy, 17 t. 4 c. £100
Demerara, 6 12¾ 25
Paint—
Hong Kong, 6 t. 5 c. £88. 15s.
Japan, 3 15 £55
Rangoon, 3 13 54
Pernambuco, 1 5½ £22. 11s.
Sydney, 3 14 £103
Boston, 1 3 125
New York, 3 2 59
Painters' Colours—
Dunedin, £441
Straits, 11 t. 17½ c. 151
Paraffin Wax—
Italy, 27 t. 8½ c. £747
Nantes, 10 3 230
Venice, 9 4 300
Hungary, 10 16½ 270
Antwerp, 1 3¾ 39
Rotterdam, 13 18
Bordeaux. 10 6¼ £231. 14s.
Potassium Bichromate—
Italy, 12 t. 18½ c. £510
Venice, 2 9½ 98
Rouen, 4 19¾ 192
Lisbon, 4 5¾ 176
Christiania, 12 cks. 192
Boston, 8 19½ 357
Rotterdam, 49 810
New York. 29 3 1,157
Philadelphia, 10 8½ 414
Rosin—
B. Ayres, 91 t. 14 c. £450
Rosin Oil—
Rotterdam, 10 brls. £17
Slag—
Rotterdam, 286 t. £99
Amsterdam, 287 100
Soap—
Lisbon, 3 t. 2 c £58
New York, 2 15 37
Soda Ash—
Dunedin, 6 t. 18¾ c. £26
Philadelphia, 50 10 145
Sodium Bichromate—
Italy, 14 t. 7¾ c. £489
Antwerp, 5 7¾ 170
Lisbon, 1 15½ 60
Sodium Sulphate—
Spezzia, 201 t. 15 c. £321
Sulphuric Acid—
Rangoon, 44 t. 2 c. £259
Superphosphate—
Dunedin, 20 t. £100
Tallow—
Oporto, 1 t. £29
Amsterdam, 1 25
Rotterdam, 4 14 c. 150
Varnish—
Sydney, 11¾ c. £29
White Lead—
Japan, 5 t. £80
Dunedin, 16 328
Sydney, 16 6 c. 328
St. John's, 2 6 45

TYNE.

Week ending April 14th

Alkali—
Antwerp, 5 t. 9 c.
Aalborg, 10
Amsterdam, 15
Rotterdam, 10
Antimony—
Hamburg, 2 t. 10 c.
Rotterdam, 8
Arsenic—
Bilbao, 1 t. 3 c.
Barium Binoxide—
Dunkirk, 30 t. 15 c.
Barytes Carbonate—
Riga, 25 t. 15 c.
Hamburg, 31 10
Blanc Fixe—
Antwerp, 1 t. 3 c.
Bleaching Powder—
Riga, 4 t. 12 c.
Genoa, 15
Hamburg, 33
Newfairwater, 24 18
Antwerp, 10 19
Christiania, 32
Copenhagen, 12
Rotterdam, 26 7
Drontheim, 10 t.
Seville, 9 10
Calcined Magnesia—
Genoa, 1 t.
Caustic Soda—
Odessa, 48 t.
Genoa, 105 6 c.
Hamburg, 25 7
Danzig, 10 3
Antwerp, 8 7
Amsterdam, 1 10
Bilbao, 40 19
Copenhagen, 2 18
Rotterdam, 1
Valencia, 5 16
Seville, 30 18
Litharge—
Antwerp, 2 t. 17 c.
Amsterdam, 1 2
Copenhagen, 12
Magnesia—
Genoa, 1 t 8 c.
Hamburg, 4
Antwerp, 1
Manure—
Drontheim, 10 t.
Oxalic Acid—
Genoa, 1 t.
Paint—
Hamburg, 9½ c.
Antwerp. 1 t.
Rotterdam, 1 19
Bergen, 1 17
Potassium Chlorate—
Genoa, 4 c.
Slag—
Rotterdam, 284 t.
Soda—
Smyrna. 15 t.
Christiania, 5
Amsterdam, 50
Randers, 27 13 c.
Rotterdam, 30
Bergen, 4 6
Stockholm, 37 14
Soda Ash—
Smyrna, 13 t. 10 c.
Newfairwater, 10 11
Antwerp, 10 7
Sodium Nitrate—
Laurvig, 2 c.
Sodium Silicate—
Bilbao, 11 t. 4 c.
Seville, 11 1
Superphosphate—
Laurvig, 12 t. 16 c.
Pernau, 115 14
Turpentine—
Antwerp, ¼ c.
White Lead—
Riga, 2 t. 13 c.
Copenhagen, 2 4
Seville, 9
Stockholm, 1 19

GOOLE.

Week ending April 11th.

Alum—
Christiania, 552 t.
Chemicals (*otherwise undescribed*)
Antwerp, 1 ck.
Boulogne, 2
Rotterdam, 1
Coal Products (*otherwise undes.*)
Boulogne, 26 cks.
Dunkirk, 100
Ghent, 29 1 cs.
Hamburg, 4
Rotterdam, 171
Creosote—
Ostend, 150 t.
Dyestuffs (*otherwise undescribed*)
Ghent, 5 cks. 1 cs.
Manure—
Boulogne, 106 bgs.
Ghent, 154
Pitch—
Antwerp, 692 t.

GRIMSBY.

Week ending April 14th.

Chemicals (*otherwise undescribed*)
Dieppe, 8 cks. 24 pkgs. 148 dms.
Malmo, 10
Coal Products (*otherwise undes.*)—
Dieppe, 49 brls.

PRICES CURRENT.

WEDNESDAY, April 25th.

Prepared by Messrs. Higginbottom and Co., 116, Portland Street, Manchester.

The values stated are f.o.r. at maker's works, or at usual ports of shipment in U.K. The price in different localities ma

	£	s.	d.
Acids:—			
Acetic, 25 % and 40 % .. .. per cwt.	6/9 & 10/9		
,, Glacial .. .. ,,	50/-		
Arsenic S.G., 2000° .. .. ,,	0	14	6
Fluoric .. .. per lb.	0	0	3¾
Muriatic (Tower Salts), 30° Tw. .. .. .. per bottle	0	0	10
,, (Cylinder), 30° Tw. .. .. ,,	0	3	0
Nitric 80° Tw. .. .. per lb.	0	0	1¾
Nitrous .. .. ,,	0	0	1¾
Oxalic .. .. nett ,,	0	0	3¾
Phosphoric, 1750° .. .. ,,	0	1	0
Picric .. .. ,,	0	1	0
Sulphuric (fuming 50 %) .. .. per ton	15	10	0
,, (monohydrate) .. .. ,,	5	10	0
,, (Pyrites, 168°) .. .. ,,	3	0	0
,, ,, 150° .. .. ,,	1	5	0
,, (free from arsenic, 145°) .. .. .. ,,	1	6	0
Sulphurous (solution) S.G. 1025 .. .. .. ,,	3	0	0
Tannic (pure) .. .. per lb.	0	1	1
Tartaric .. .. ,,	0	0	11
Arsenic, white powdered .. .. nett per ton	14	5	0
Alum (loose lump) .. .. ,,	5	2	6
Alumina Sulphate (pure) .. .. ,,	5	0	0
Aluminoferric .. .. ,,	2	7	6
Aluminium .. .. per lb.	0	3	0
Ammonia, Anhydrous .. .. ,,	0	1	3
,, ·880=28° B .. .. per lb.	0	0	3
,, =24° B .. .. ,,	0	0	2¼
,, Carbonate .. .. nett ,,	0	0	3¾
,, Muriate .. .. per ton	25	0	0
,, ,, (sal-ammoniac) 1st & 2nd .. per cwt.	39/- & 37/-		
,, Nitrate .. .. per ton	44	0	0
,, Phosphate .. .. per lb.	0	0	10½
,, Sulphate (grey) London .. .. .. per ton	13	2	6
,, ,, (grey) Hull .. .. ,,	13	1	3
Aniline Oil (pure) .. .. per lb.	0	0	5½
Aniline Salt ,, ... ,,	0	0	5¼
Antimony .. .. per ton	45	10	0
,, (tartar emetic) .. .. per lb.	0	0	10
,, (golden sulphide) .. .. ,,	0	0	10
Barium Chloride .. .. per ton	6	10	0
,, Carbonate (native) .. .. ,,	3	10	0
,, Sulphate (native levigated) .. .. .. ,,	45/- to 75/-		
Bleaching Powder, 35 % .. .. nett ,,	7	10	0
,, Liquor, 7 % .. .. ,,	3	10	0
Bisulphide of Carbon .. .. ,,	11	15	0
Chromium Acetate (crystal) .. .. per lb.	0	0	6
Calcium Chloride .. .. per ton	2	5	0
China Clay (at Runcorn) in bulk .. .. .. ,,	17/6 to 30/-		
Coal Tar Products and Dyes:—			
Alizarine (artificial) 20 % .. .. .. net per lb.	0	0	8
Magenta .. .. ,,	0	3	9
Anthracene, 30 % A, f.o.b. London .. per unit per cwt.	0	1	1
Benzol, 90 % nominal .. .. .. per gallon	0	1	1½
,, 50/90 ,, ... ,,	0	1	4
Carbolic Acid (crystallised 40°) .. .. .. per lb.	0	0	6¼
,, (crude 60°) .. .. per gallon	0	1	7
Creosote (ordinary) .. .. ,,	0	0	1½
,, (filtered for Lucigen light) .. .. ,,	0	0	2½
Crude Naphtha 30 % @ 120° C. .. .. .. ,,	0	0	6
Grease Oils, 22° Tw. .. .. per ton	2	5	0
Pitch, f.o.b. Liverpool or Garston .. .. .. ,,	1	7	6
Solvent Naphtha, 90 % at 160° .. .. .. per gallon	0	1	2
Lucigen" and "Wells Oils .. .. ,,	0	0	2½
Copper .. .. per ton	40	3	9
,, Sulphate .. .. ,,	15	10	0
,, Oxide (copper scales) .. .. ,,	40	0	0
Glycerine (crude) .. .. ,,	15	10	0
,, (distilled S.G. 1250°) .. .. ,,	44	0	0
Iodine .. .. nett, per oz.	0	0	9
Iron Sulphate (copperas) .. .. per ton	1	5	0
,, Sulphide (antimony slag) .. .. ,,	2	0	0
Lead (sheet) for cash .. .. ,,	10	7	6
,, Litharge Flake (ex ship) .. .. ,,	13	0	0
,, Acetate (white ,,) .. .. ,,	25	15	0
,, ,, brown ,,) .. .. .. ,,	16	10	0
,, Carbonate (white lead) pure .. .. .. ,,	20	0	0
,, Nitrate .. .. ,,	20	0	0
Lime, Acetate (brown) .. .. per ton	6		
,, ,, (grey) .. .. ,,	10		
Magnesium (ribbon and wire) .. .. per oz.	0		
,, Chloride (ex ship) .. .. per ton	2		
,, Carbonate .. .. per cwt.	1		
,, Hydrate .. .. per ton.	17		
,, Sulphate (Epsom Salts) .. .. per ton	3		
Manganese, Sulphate .. .. ,,	17		
,, Borate .. .. per cwt.	2		
,, Ore, 70 % .. .. per ton	4		
Methylated Spirit, 61° O.P. .. .. per gallon	0		
Naphtha (Wood), Solvent .. .. ,,	0		
,, ,, Miscible, 60° O.P .. .. .. ,,	0		
Oils:—			
Cotton-seed .. .. per ton	21		
Linseed .. .. ,,	21		
Petroleum, Russian .. .. per gallon	0		
,, American .. .. ,,	0		
Phosphorus (yellow) .. .. per lb.	0		
,, (red) .. .. ,,	0		
Potassium (metal) .. .. per oz.	0		
,, Bichromate .. .. nett per lb.	0		
,, Carbonate, 90% (ex ship) .. .. .. per ton	16		
,, Chlorate .. .. per lb.	0		
,, Cyanide, 98% .. .. ,,	0		
,, Hydrate (Caustic Potash) 80/85 % .. per ton	21		
,, ,, (Caustic Potash) 75/80 % .. ,,	20		
,, ,, (Caustic Potash) 70/75 % .. ,,	19		
,, Nitrate (refined) .. .. per cwt.	1		
,, Permanganate .. .. per cwt.	3		
,, Prussiate Yellow .. .. per lb.	0		
,, Sulphate, 90 % (ex ship) .. .. .. per ton	9		
,, Muriate, 80 % (do.) .. .. .. ,,	8		
Silver (metal) .. .. per oz.	0		
,, Nitrate .. .. ,,	0		
Sodium (metal) .. .. per lb.	0		
,, Carb. (refined Soda-ash) 48 % .. nett per ton	4		
,, ,, (Caustic Soda-ash) 48 % .. ,, ,,	4		
,, ,, (Carb. Soda-ash) 48% .. .. ,, ,,	4		
,, ,, (Alkali) 58 %) .. .. .. ,, ,,	3		
,, ,, (Soda Crystals) .. .. .. ,, ,,	2		
,, Acetate (ex-ship) .. .. ,,	14		
,, Arseniate, 45 % .. .. ,,	11		
,, Chlorate .. .. per lb.	0		
,, Borate (Borax) .. .. net, per ton.	23		
,, Bichromate .. .. per lb.	0		
,, Hydrate (77 % Caustic Soda) (f.o.b.) net pr. ton	10		
,, ,, (74 % Caustic Soda) ,, ,, ,,	10		
,, ,, (70 % Caustic Soda) ,, ,, ,,	9		
,, ,, (60 % Caustic Soda) .. ,, ,,	8		
,, ,, (60 % Caustic Soda, cream) (f.o.b.) ,,	7		
,, Bicarbonate .. .. ,,	6		
,, Hyposulphite .. .. ,,	5		
,, Manganate, 30% .. .. ,,	16		
,, Nitrate (95 %) ex-ship Liverpool .. .. per cwt.	0		
,, Nitrite, 98 % .. .. per ton	29		
,, Phosphate .. .. ,,	15		
,, Silicate (glass) .. .. per ton	5		
,, ,, (liquid, 100° Tw.) .. .. .. ,,	4		
,, Stannate, 40 % .. .. per cwt.	3		
,, Sulphate (Salt-cake) .. .. per ton.	0		
,, ,, (Glauber's Salts) .. .. ,,	1		
,, Sulphide .. .. ,,	8		
,, Sulphite .. .. ,,	5		
Strontium Hydrate, 100% .. .. ,,	8		
Sulphocyanide Ammonium, 95 % .. .. per lb.	0		
,, Barium, 95 % .. .. ,,	0		
,, Potassium .. .. ,,	0		
Sulphur (Flowers) .. .. per ton.	7		
,, (Roll Brimstone) .. .. ,,	5		
,, Brimstone: Best Quality .. .. .. ,,	3		
Superphosphate of Lime (26%) .. .. ,,	2		
Tallow .. .. ,,	28		
Tin (English Ingots) .. .. ,,	75		
Tin Crystals .. .. per lb.	0		
Zinc (Spelter) .. .. per ton	15		
,, Chloride (solution, 96° Tw.) .. .. .. ,,	5		

F.O.B. 10 ton lots

THE

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CURRENT TOPICS.

THE LABOUR COMMISSION.

AT last, the public have a chance of seeing how much good they are likely to derive from the report of the Labour Commissioners, the development of which has cost just about £47,000. The majority report is not over-burdened with helpful or even up-to-date suggestions; and is particularly useless in regard to the Chemical industry, as dealt with in section C. So far as this industry is concerned, the chief value of the report rises out of the fact that its publication has led to the production of a minority report. The supporters of the Labour movement, at the outset, evidently hoped that the holding of an inquiry would enable them to bring forward such startling evidence and harrowing details, as would accomplish great things for their cause. Apparently they are disappointed and dissatisfied. But this seems to be the chronic state of the leaders themselves, and the class they represent. They grumble "etarnally," and yet there seems to be no way of getting at just what it is they want, let alone ascertaining if their wants are just. However, as the outcome of this recent Labour fiasco, we now have in black and white a distinct statement of a few of the more specific requirements and wishes of the Labour party, apart from their views upon the necessity of wholesale national reformation and readjustment.

The most striking, and perhaps the most important, point in the whole of the minority report is the admission of the belief that all the conciliation and arbitration boards in the world will never do away with industrial disputes, so long as industries are worked for the sake of private profit, rather than the needs of the public. *Mirabile!* When the female public needed "birdcages," a need which meant good "biz" for Sheffield steel makers and their employees, they ought only to have worked for the sake of supplying the needs of the public, without thinking of the increased profits and wages which this temporary and extraneous fillip to their trade enabled them to earn? Exactly so. And when,—prior to dusting away the diminutive dab of dirt which dims the visual organs of the nation, the propounders of this pretty proposition will proceed to pluck out the ponderous beam which prevents the proper use of their own optics, by substituting for personal preferment and private profit, whole-hearted co-operation for public good—we say *when* this shall have been done, then we shall either have reached a state of national refinement which will enable us to carry out such a communistic scheme, or we shall be such a contented and prosperous people, that strikes will be a rarity, and arbitration boards nonentities. Unfortunately, at present, labour can only think one way, and its thoughts, under somewhat different guises, are virtually identical with those which in the past have stimulated men to ripen themselves into full-blown capitalists. *Pro bono publico* is an excellent maxim,

but when it comes to asking individual assistance in some project for universal good, there seems to be no public at all. In such a case each individual regards both himself and everybody else as a private personality, contending that each must look after himself; it being as much as one man can do to provide for his own requirements. And so we arrive at the starting point again.

EXPERT EVIDENCE.

The difficulties which surround the use of expert evidence in this country are beginning to be felt in America in a similar way. The turn things took with an American chemist while giving evidence in a criminal case has caused that gentleman to speak his mind. Owing to the way he was "worked" by counsel he was made to give unduly biased evidence in a poisoning case, as counsel ignored a portion of his report and gave him no opportunity of giving genuine expert testimony. The jury, however, could not agree. In the second hearing of the case the expert was enabled to give impartial evidence, and the jury in the end acquitted the prisoner. The expert naturally wishes to know what was his duty in the first case, and how he ought to have construed the meaning of his oath.

As in this country, the American gentlemen of the law seem to hold various opinions as to the legitimate use of experts and their evidence. In one case the opinion was that the expert had been employed fairly and that he had no right to enlighten the Court, no matter how vital the facts he withheld might have been. In another case this opinion was modified with the proviso that such a course was justifiable in a civil but not in a criminal action involving life or death. Mr. Mason, the expert in question, very wisely thinks that cases of this nature make it more desirable than ever that experts should be employed by the Bench, in preference to the Bar, so that their evidence could be reviewed in its entirety. The proposition is not exactly new, but the further discussion and ventilation of such points is certainly as desirable here as in America.

THE PROSPECTS OF INNOCUOUS WHITE LEAD.

It certainly is a pleasant change to learn that the White Lead Co., Ltd., has, during the past financial year, made a profit. Under the circumstances, it is, perhaps, not very remarkable for the directors of the company to think that the future of lead sulphate, as a pigment, is well assured, and the old carbonated white lead doomed to die off the market. Since the company, however, has been working a patent process for the manufacture of zinc oxide, apart from improving their white lead process; it would be interesting to know how far the white lead, pure and simple, is responsible for last year's profit, and how much should be credited to the zinc oxide? According to the opinions of some, the latter is a more valuable pigment than the new innocuous white lead, in spite of its sharing with that article want of body, and often being erroneously accredited with drying properties. The directors in their report make much of an official attestation by the Inspector of Factories as to the harmlessness of their white lead. The utility and value of such a testament is not very apparent, as no doubt exists about the product being non-poisonous. Its efficiency is the moot point, and a testimonial from the Superintendent of Stores at Woolwich, or some such person, to the effect that the new article was quite as economical and convenient as ordinary white lead, would have been much more to the point. The manufacture of carbonated white lead is often attended with lamentable calamities, but the Home Office has this matter well in hand, and is quite capable of duly protecting the health of the operatives. The application of philanthropic and h
tarian arguments to the "booming" of white lead subs
is just about played out.

THE AMERICAN CHEMICAL INDUSTRY

THE RELATION OF LABOUR TO THE COST OF PRODUCTI

(Specially Contributed.)

THE proportion of the cost of labour to the total cost of pr
in any branch of manufacturing industry is necessarily a
consideration to manufacturers; especially where labour is an in
factor in the industry. It is obvious that the supremacy in ar
line of production must eventually lie with the country, where
conditions being equal, the cost of production is less than that
peting countries.

Germany is an important factor in this respect, so far as En
concerned; but the present article is not concerned with that
but rather with the United States where the chemical industry
late years made steady progress.

It may be pointed out, by way of introduction, that the Unite
purchased, in 1893, chemicals, drugs, dyes and medicines, to t
of $13,250,912, of which $1,915,873 was for coal-tar colours an
$1,171,878 was for caustic soda; $3,803,479 for soda ash
$4,401,000 for miscellaneous chemicals. This was dutiable. Th
also imported, during the same period, $1,444,620 worth of ch
duty free, among which were alizarine, argol, various kinds of
cochineal. &c. The exports amounted, in 1893, to about half t
value of the imports of chemicals, namely to $7,001,000. The
the British exports of chemicals to America, in 1891 was £1,2
($6,485,000) for alkali alone; or about 50 per cent. of the tot
exported to all countries. Of bleaching materials, the Stat
£337,762. out of a total of £522,625. We thus see the imp
of the connection between the two countries, and any info
bearing on the cost of production of chemicals in America mu
importance to English manufacturers.

The relation of wages to the cost of production inv
consideration of two elements—Labour and Capital, an
lines of inquiry may be pursued. First the determination
share of product which falls to labour in distinctio
the share retained by capital. Secondly, the relation
labour cost bears to the total cost of production, as shown by t
portion which wages bear to the other elements of cost. T
inquiry would involve the question of profits and would take
basis, the selling price of the product, separating the price i
various factors which compose it, such, for instance, as wages (
share) and profits and interest (capital's share). The second p
the subject which deals only with the actual cost to the manufactur
inates profits, and determines what part of that cost is due to labour
sented by wages, and what to raw material and other ne
expenses. The first inquiry deals with the distribution of weal
the second with its production. The question to be dealt with
what relation does the cost of labour bear to the cost of the pro
the actual time of completion? For instance, the proportions
in making one thousand gallons of *disinfectants* are as foll
Wages from 4·76 to 9·27 per cent. of the total; and raw m
from 95·24 to 90·73 per cent. respectively. In the manufacture
ton of *sulphuric acid* the proportions are: Wages from 15 to
cent.; raw materials from 53 to 66·50 per cent.; and miscell
expenses (such as rent, taxes, insurance, &c.) from 32 to 14 pe
As regards laundry blue, to produce 24,092 gross of this articl
from 13 to 22 per cent. for wages, about 59 per
for materials, and the balance for rent, &c. The
cost of producing a ton of *guano* is comparatively
being only 8·30 per cent. of the total outlay. The raw materia
81·50 per cent., while about 10·20 per cent. is allowed for
expenses. For the same quantity of *fertilisers*, the wages cos
per cent., and materials 80 per cent. In the manufac
phosphates, the labour cost per ton is a little higher, namely, 14
cent., and materials 85·71 per cent. *Oils and illuminating*
cost, per barrel nearly 7 per cent. for labour; about 67
cent. for raw materials, and the balance goes for miscell
expenses. An experiment in making 3,185 tons of *copperas*
that the labour cost ranges from 22·91 to 33·91 per cent.
materials from 41·66 to 54·32 per cent.; and general charge
35·43 to 11·77. In making *mixed paints* (per gallon) labo
about 10 per cent. of the total, and materials 90 per cent.; wh
same proportions apply to the manufacturer of green paints.

In 1893, an investigation was made by the Statistical Bureau
State of Connecticut, U.S.A., as regards the cost of manufactu
that district, and particulars were obtained from eleven firms
chemical products, the aggregate capital being $438,000; the tot
of goods made in one year amounting to $638,000 the value o

aterials being $359,300; the cost of manufacture (less rent, &c.), $156,550; rent and taxes, $6,988; superintendence, as from "wages," $32,950; wages, $69,337; gross profits, 50; net profits, $115,161, or a percentage of net profits of capital ing to 26·29. Reduced to percentages these figures are:— tage of wages to the cost of goods made, 13·26; superintendence, stock and materials, 68·72; rent, taxes, &c., 1·34; general es of cost of goods made, 10·38.

following table shows the weekly rate of wages paid by nine operatives in the State of Massachusetts, in the industry of chemical preparations:—

Rates of Wages.	Employés. Males.	Females.
Under £1.	2	1
£1. but under 24/-	2	—
£1. 4s. ,, 28/-	4	—
£1. 8s. ,, 32/-	3	1
£1. 12s. ,, 36/-	7	—
£1. 16s. ,, 40/-	121	—
£2. ,, 48/-	54	1
£2. 8s. ,, 60/-	83	—
£3. ,, 80/-	21	—
£4. and over	4	—
Totals	301	3

ESTUFFS. Firms.)	Males.	F'males
£1.	3	—
t under 24/-	2	5
,, 28/-	3	6
,, 32/-	20	2
s. ,, 36/-	6	1
s. ,, 40/-	71	—
,, 48/-	85	—
,, 60/-	26	—
,, 80/-	10	—
d over	1	—
Totals	227	14

FERTILISERS. (Seven Firms,)	Males.	F'males
Under £1.	—	—
£1. but under 24/-	—	—
£1. 4s. ,, 28/-	2	—
£1. 8s. ,, 32/-	2	—
£1. 12s. ,, 36/-	21	—
£1. 16s ,, 40/-	41	—
£2. ,, 48/-	9	—
£2. 8s. ,, 60/-	13	—
£3. ,, 80/-	3	—
£4. and over	1	—
Totals	92	0

rintworks, dyeworks, and bleacheries, in which 4,499 males nployed, 50 per cent. received 28s. to 32s. per week; 10 per rned £1.; 10 per cent. 24s.; 10 per cent. 36s., and the re- r sums varying from £2. to £4. In the chemical industries as a 75 per cent. of the people earn about £2. 5s. a week. Women get beyond 30s., except in special cases of skill.

Charles Booth, when examining into the wages paid to persons ed in the chemical industry in England, found that out of 663 two-thirds earned from 20s. to 40s. a week, so that it may be led that wages on both sides of the Atlantic are very similar. oth found that foremen earn 40s. to 50s. a week, and "tending make from 30s. and upwards, being paid 6d. to 7d. per hour. al labourers are paid 5d. to 6d. per hour, or about 25s. for an y week; but they, as well as the "tending hands," make a good overtime. White lead workers earn 7s. 6d. a day, but the men work at this more than three days a week. Other persons employed 6d. a day or 19s. to 22s. a week for such as have regular work. st of living in America, outside New York City, would be about cent. higher than in England, and this includes cost of clothing, ring New York City with London, the former would be about 20 t. dearer. Operatives work harder in America than in England, ere is rather more "driving" by the "bosses" there than in d.

ER POLLUTION AT NEW MILLS.—At the New Mills County last week, before His Honour Judge Kenelm Digby, Q.C., the Mills Local Board (Derbyshire) were summoned by the Mersey well Joint Committee for causing the brook Sett, flowing from ld through New Mills, and the river Goyt, as tributaries of the Mersey and Irwell, to be polluted with sewage and other matters. experts on sewage matters were in attendance. Mr. Jordan took on to the jurisdiction of the Joint Committee over Derbyshire, judge held that the Act of Parliament under which the action ought gave the plaintiffs power over the streams which were ries to those polluted. Mr. R. A. Tatton, chief inspector, proved e natural outlet for all the sewers in the New Mills Local Board , and especially within the town itself, was the brook Sett and er Goyt. His Honour, without calling upon the defendants n correspondence with the plaintiffs recently had practically d the pollution of the said streams), ordered them to carry out essary sewerage and sewage disposal works within one year, pay the costs of the action on the higher scale.

Parliamentary Jottings.

THE RETURN OF THE TECHNICAL EDUCATION GRANT.

IN the House of Lords on Monday last, Lord Norton moved for a return from every County Council of any portions of the residue (after prior charges) of Customs and Excise duties paid to local taxation under the 53rd and 54th Victoria, chap. 60, section 2, put at their disposal for technical education, which had been appropriated by them to other purposes, and which had been allowed to accumulate without appropriation. The noble Lord referred especially to the London County Council, who, he said, absorbed the whole of the £160,000. allotted to them, but in the first year did not spend any portion of it in the interests of technical education.

Lord Monkswell replied that there was no objection on the part of the Government to the return asked for, but explained that last year £90,000. of the £160,000. allotted three years ago to the London County Council was spent in the interests of technical education.

The motion was agreed to.

THE COST OF THE LABOUR COMMISSION.

In the House of Commons recently, Mr. Benn asked the Secretary to the Treasury whether he could state the total amount expended in respect of the Royal Commission on Labour?

Sir J. Hibbert said the total expenditure up to the 31st March, 1894, was £45,358., and the estimated further expenditure was £1,530. These figures were exclusive of the rent of the premises used, which belonged to the Government.

WOMEN AND GIRLS IN INDIAN MINES.

In answer to Sir John Gorst, Mr. Fowler said, Lord Cross and Lord Kimberley have both intimated to the Government of India their opinion that the employment of women and girls under ground should be prohibited in India, in accordance with the resolution of the Berlin Conference. Lord Kimberley decided that an inspector of mines, who had served as one of her Majesty's assistant inspectors of mines in this country, should be sent out to India in order to advise upon the details of a Mines Regulation Act. That inspector had been for some time prosecuting his inquiries, and when his report is received legislation will be undertaken on that subject.

THE BURY CORPORATION BILL.

This Bill has been considered by the Police and Sanitary Regulations Committee of the House of Commons. It authorises the construction of sewerage works, and extends for three years the period within which the Corporation are required by an Act passed in 1889 to afford a supply of water to the inhabitants of Haslingden. The latter was the only portion of the Bill contested. The Committee decided to grant the Corporation an extension of two years in which to complete the works, at the same time suggesting to the promoters whether further measures should not be undertaken in order to give to Haslingden the supply to which it was entitled.

THE MINERS' EIGHT HOURS BILL.

When this Bill reaches the Committee stage, Sir James Fergusson will move amendments substituting 48 hours a week for eight hours a day.

LIGHT IN RELATION TO BACTERIA.

LECTURING recently at the Royal Institution, London, on the action of light on bacteria and fungi, Professor Marshall Ward said it had long been known that bacteria did not flourish in sunlight as they did in the dark, and it had been proved that they were affected not by the heat rays of the sun, but by the light rays (*Chemical Trade Journal*, 316 p. 369). Up to a comparatively recent time, however, it had not been settled which of the light rays were active in causing their death. Professor Ward described some of the experiments he had made to determine the point. Bacteria screened from direct sunlight by a solution of bichromate of potash (which cuts off the blue rays of the spectrum) developed as freely as in the dark. When they were exposed in glass for some hours to the light of the spectrum, it was found that in the red, orange, yellow, ultra-violet, and part of the violet regions they were unaffected, while in the blue they were killed. In further illustration of the effects of light upon them the lecturer exhibited a photograph taken by passing light through a negative superimposed upon a plate of bacteria; the dark parts consisted of living bacteria, while in the light parts they had been destroyed. Professor Ward also described the methods he had employed in studying the rate of growth of individual bacteria in different kinds of light. In the main, his results corroborated the wisdom of nations as to the hygienic effects of sunlight, but they could scarcely be regarded as conclusive for all varieties of microbes till further investigation had been carried out.

Legal Intelligence.

THE COURT OF SESSION (INNER HOUSE).

(Before the Lord Justice-Clerk and Lords Young, Rutherfurd-Clark, and Trayner.)

ROSE'S PATENTS COMPANY LIMITED V. FREDERICK BRABY AND COMPANY LIMITED.

This case consisted in the hearing of an appeal against the decisions of the Sheriff Substitute and Sheriff Principal in the Sheriff Court of Lanarkshire, N.B., in which Rose's Patents Company (the pursuers) sought interdict and damages against the defenders for the infringement of certain patented improvements in apparatus for burning hydrocarbon or other oils for lighting and heating purposes by making and selling after the date of the pursuer's patent, oil-spray lamps working with self-generated steam. The pursuer's apparatus consisted of two tanks, one containing water and the other oil. From the water-tank was led a pipe, which, at a short distance, became a vertical pipe coil set above and around the orifice of the outlet from the oil-tank, and containing water supplied from the water-tank by gravitation. The pipe of the coil divided at the top into two branches, one leading to the burner nipple, from which steam and oil spray issued in a luminous jet, the other being carried into the water tank above, so that when steam is generated, as it must at first be by the application of lighted waste to the coil, pressure is produced on the water in the tank to counterbalance the simultaneous back-pressure in the coil, preventing the flow of the water into the coil by gravitation. The steam which goes to the burner produces a current through the oil pipe and forces the oil through the burner in the form of spray, which thereafter produces continuous light and heat.

The defenders pleaded, anticipation by the patents of Doty and Robinson, want of ingenuity and novelty. The Sheriff-Substitute having given judgment in favour of the pursuers, the defenders appealed to the Sheriff Principal, who subsequently confirmed the interlocutor appealed against. The defenders, however, appealed again, and the case was heard by the Lords Justices mentioned *supra* in the Court of Session. This second appeal resulted in their Lordships, after taking time to consider their judgment, coming to the conclusion that the interlocutors pronounced in the Court below were not well founded, and assoilzing the defenders accordingly. The Lord Justice-Clerk in his judgment said: The defenders' lamp is, as regards the obtaining of the back pressure, substantially the same as the pursuers', but the defenders plead that the pursuers, in so far as there may be any invention in their lamp, were anticipated, and that their alleged invention does not show any novelty which can be held to have any ingenuity such as would entitle the pursuers to the privileges of a patent. It is maintained that the specifications of Doty and of Robinson both disclose the equivalent of what is claimed by the pursuers. Doty in his specification describes an arrangement by which the pressure of the vapour of oil on the top of the oil tank is produced in a similar manner to that used by the pursuers in the case of the water tank for the purpose of neutralising the back pressure. He also describes as a modification of his invention an arrangement whereby he uses two coils, wound side by side, one for oil and another for water, in the same manner as the single coil for oil. It is true that the purpose he has in view in this arrangement is the production of heat rather than light, but this does not, as it appears to me, make any difference; the end to be attained in both cases being the production of continuous flame and its utilisation, whether for heating or lighting purposes in no way affecting the process by which the flame is obtained and kept up. It is true, also, that in his figure of the double coil he does not show the arrangement for pressure on the upper surface of the liquid in the tank. But that has been already described, and he indicates that the oil and steam are discharged from their respective vessels in the same manner. If this be so, then Doty had in his specification already described the use of a coil with water in which by a pressure on the surface produced by part of the steam generated the back pressure on the feed pipe of the coil might be neutralised.

Having given the matter as careful attention as I can, I hold that Doty does disclose in his specification the use for flame producing purposes of a water tank provided with a coil, and the use of a branch steam pipe for the purpose of producing a neutralising pressure on the water in a water tank, so as to secure the flow of water into the coil.

Lord Rutherfurd Clark said: I see considerable merit in the apparatus. But, unfortunately for the pursuers, Rose was not the first and true inventor of it. An apparatus of the same kind was indicated in Doty's specification, and probably it was sufficiently indicated to a person possessing ordinary skill. But it is not necessary to dwell on this. For Robinson's patent precedes that of Rose, and it describes an apparatus identical with that set out in Rose's specification. There are some slight differences in detail; but to my mind it is not doubtful that the two apparatus are the same. In particular, they both contain that bifurcation of pipe which overcomes the back pressure and a continuous current to be maintained at the burner.

The pursuers hardly deny that their apparatus is the same as son's. Their case is that it is applied to a different use; for th constructed by Robinson is an oil vapour lamp, and consequer apparatus is intended to vaporise the oil and to produce a con supply of oil vapour. The pressure which it creates is in the c and not in the water tank, and it is created by the admissio vapour and not of steam. The pursuers contend that there identity, inasmuch as the apparatus of Rose is used for gener continuous current of steam in order to produce a continuous oil The merit of Rose in these circumstances comes to be the appl of an old apparatus to a new use. But there cannot be a good unless there is ingenuity or merit in the application. Accordin pursuers bring evidence to show that their apparatus has bee successful, and makes it possible to use any kind of oil; where apparatus of Robinson is liable to choke from the deposit of oil lates, and from that cause the finest oils can alone be used.

I have come to be of opinion that the pursuer's patent car supported, because there is, I think, no merit or ingenuity in th use of the apparatus. When the system of producing a cont current is known, there is no merit in producing it from steam a from oil, nor is there any merit in applying a current of steam t duce oil spray It was done in the spray lamps which had ther been in use. That the spray lamp has, in the automatic form, tages over the vapour lamp is not material, for the claim of the pa is not for those advantages, but for the new use.

The other members of the Court concurred; and the appe accordingly sustained with expenses in both courts.

Reports of Companies.

THE WHITE LEAD COMPANY, LIMITED.

The report of the directors of the White Lead Company, Li for the past year states that the coal strike and the difficulty curing fuel caused a stoppage in the manufacture for a short but, notwithstanding these and other minor difficulties, all of have now been overcome, the business of the Company has be further increased, especially for white lead ground in oil. G and others who were formerly prejudiced against the Company's lead are now purchasing it – some of them covertly – and the r of customers on the books of the Company constantly increases. further improvements introduced during last year in the proc manufacture have had important results, not only in perfecti quality of the product, but also in reducing the cost of productio item of wages has been reduced, and an increased percent sulphate of lead is now obtained from the crude galena. F capital has been required for the improvements carried out, a working the increasing business, and this has been provided Henry Tyler, who had advanced at December 31, 1893, the s £21,600., in respect of which debentures had been issued to h £20,800. Further advances have been made by him, for whi bentures have since been issued. As included in the balance there is an increase in the value of the stock in hand amount £10,815. 2s. 6d., against the additional amount of debentures since the date of the previous balance-sheet, viz., £6,600. In v the improved condition of the business of the Company, some shareholders may now wish to share with Sir Henry Tyler i tributing to its success. Any shareholders who may wish to in the debentures (bearing 6 per cent. interest), for sums of not les £100., may do so on application to the secretary, subject, for th tection of the Company, to the condition that six months' notic be given to the Company in the event of the subscriber requiri payment. New patents for improvements in the process, and f manufacture of oxide of zinc, have been obtained for France, Be Austro-Hungary, Italy, and Spain, and the necessary steps hav taken to obtain patents in the United States of America and Ger as well as the United Kingdom. Negotiations are in progress f disposal of several of the foreign patents. The balance-she profit and loss account show great improvement over those for years Taking into account £5,000., which has been received feited to the Company, under the agreement of December, 9, 18 the sale of the patents for France and the United States of Ar there is, after payment of debenture interest, a profit amount £880. 12s. 8d. for the thirteen months comprised in the acc During the first six months losses were incurred in consequence smaller amount of business done, and whilst the process was further perfected; but during the last seven of the thirteen mon the sales increased and further economies in working were ef the business was worked at a profit. A letter received from

r of Factories, dated April 6th, 1894, affords official recognition practically non-poisonous character of this Company's white e of) lead. Grinders using it will, naturally, be exempt from rous regulations to be imposed upon the manufacturers and of the poisonous carbonate. The directors believe that the solution of the difficulties connected with the production and ent of white lead, as affecting the health of the workers, the and the public, will be found in the abandonment of the e and its methods, and the general adoption of this Company's onous sulphate and mode of manufacture.

RIO TINTO COMPANY, LIMITED.

wenty-first ordinary general meeting of this company was held at the Cannon-street Hotel. Mr. H. Matheson presided, and he time has again come round when we have to meet our share- and give our account of the work of the year recently closed. out of ore from the mines was 1,332,002 tons, containing an of 2,996 per cent. of copper as compared with 2,819 in the year, and 2,649 in the year before that. Of pyrites sold under to the United Kingdom, Germany, and the United States, we 469,339 tons, or 33,581 tons in excess of the deliveries of the year. In addressing you last year I led you to expect that the would amount to 60,000 tons, and this would have been out for the long continuance of the coal strike in England, mpelled our principal customers to shut down some of their The consumption of these friends has been resumed on an im- cale. The refined copper brought to market and realised d to 18,858 tons, and the copper in pyrites to 11,265 tons, 30,123 tons, being an increase of 674 tons over last year. have observed that all stocks of copper, whether refined or in f manufacture, are carried over at cost price only. The prices r during the whole of 1893 have been again very disappointing, rchantable brands having averaged £43. 15s. 6d. per ton, 45. 12s. 8d. in 1892, or £1. 17s. 2d less per ton, being nearly on our sales The chief factor in bringing this about has state of the American market, the great depression in all undertakings having seriously diminished consumption of the re and led to very heavy shipments being made to Europe , both in England and on the continent, is in a fairly satisfac- , and has been able to take over these large quantities, although pense of lower prices. So soon as trade in America revives expect a turn for the better in prices. We referred last year to n for coal in the province of Cordoba, which had been under- behalf of this company. It appeared to the Board very im- o secure for the company supplies of native coal rather than y dependent upon this country for a material forming so large y feature in our work at Rio Tinto. The explorations under- f not, however, prove sufficiently successful to induce the persevere, and they have been abandoned and the cost written revenue. On the recent annual visit of the deputation of the he mines everything was found going on satisfactorily. The will speak for themselves. It will be seen that the entire cost, discount and expenses, connected with the issue last year of age bonds, has been written off, and that the general depreciа- nt now amounts to £440,824. 16s. 8d.

B. Jardine was elected a director in the place of Mr. J. M. d.

idend was declared, making 7 per cent for the year.

THE SAN JORGE NITRATE CO., LIMITED.

annual report the directors state that notwithstanding the company having been restricted by the Nitrate combination months' work during the past year, the gross profits have to the largest yet made by the company in one year, namely, Further dividend is announced of 10s. per share, making ent. for the year. The directors have made arrangements e of the plant and machinery at Oficina Solferino, to Colonel £10,000., and after writing off the value of various stocks n that sale, there is a net amount of £7,185. available to be the original cost of that portion of the company's property been sold. This amount the directors propose to invest in securities, and to place a further sum of £3,000. to depreciа- nt, carrying forward £1,341. to next account.

DIVIDENDS.

E PACCHA AND JAZPAMPA NITRATE CO., LIMITED.

ort of this company to December 30 shows a gross profit of the net profit available for dividend being £47,008. Out of rectors have paid an interim dividend at the rate of 10 per nnum for the half-year to June 30, and they now recommend ividend at the rate of 15 per cent. per annum for the half- December 30, making 12½ per cent. for the year, and ,433. to be carried forward.

NOBEL DYNAMITE TRUST CO., LIMITED.

The directors of this company having received particulars of the earnings of the subsidiary companies, recommend a dividend of 10 per cent., carrying forward about £15,000.

STATUTORY MEETING.

A REMARKABLE RECORD.

THE GLORY PAPER MILLS COMPANY, LIMITED.

The statutory meetings of the creditors and shareholders of this company were held recently in London. The chairman, the Assistant Official Receiver, in commenting upon the affairs of the company, said the company was promoted by the vendors, Messrs Grosvenor, Chater, and Co., who had previously to the formation of the company carried on business at the Glory Mills, Wooburn green, near Maidenhead, for many years. The result of the trading prior to the transfer to the company was not disclosed, but the purchase price was fixed at £25,000, payable as to £15,000. in cash and £10,000. in deferred shares. The purchase price was based upon a valuation made by a gentleman well known in the paper trade. The valuation comprised plant, machinery, and the freehold property, the total amount being £27,000. odd. Consequently nothing had been paid for goodwill. The purchase was duly carried out, but upon its being discovered later that a considerable loss was being made on the trading Messrs. Grosvenor, Chater, and Co. agreed to cancel the deferred shares, thus reducing the purchase price to £15,000. Referring to the prospectus issued by the company, the chairman noticed that although no reference was made as to the result of the trading prior to the formation, the directors expressed the opinion that with the benefit of additional machinery sufficient profits would be earned to pay a dividend of at least 10 per cent. on both the preference and deferred shares, and that without the proposed extension a profit available for a dividend of 8 per cent. on the proposed issue would be earned. It would be interesting to know the basis upon which the directors arrived at that conclusion. New machinery was laid down almost immediately afterwards at a cost of £10,000. or £12,000., which was borrowed on mortgage of the freehold property, a debenture for the same amount being issued which covered both present and future property of the company. The results of the trading obtained with the aid of the new machinery did not appear by the balance-sheets to have justified the expenditure, as whilst during the 15 months ended at September, 1888, the profit was £750, the following year's trading resulted in a loss of £1,400., and in 1890 the loss was returned at £4,385. In 1891 there was a further loss of £700.; in 1892 a profit of £1,083.; in 1893 a loss of £1,105.; and in 1894 there was a loss of £5,651. (Cries of "Shame" and "Impossible.") The whole matter would be the subject of the closest inquiry. (Hear, hear.) A Creditor: I should almost think they gave the paper away. (Laughter.) The chairman, continuing, said a contract was entered into between the company and Messrs. Dunster and Wakefield, by which that firm were to take the entire supply of the paper made by the company. There was some discrepancy as to the actual agreement, which did not appear to have been reduced to writing, and as a great deal turned upon it, the arrangement would have to receive the most careful attention. (Hear, hear.) Since the winding-up order was made a preliminary meeting of the creditors had been held, at which it was decided not to proceed with the manufacture of the raw material into paper, but to proceed with the realisation, and endeavour to sell the property and business as a going concern. That course had been adopted, with the consent and concurrence of the debenture-holders, and negotiations were now pending for the sale of the mill. Resolutions were passed for the Official Receiver to act as liquidator, and wind up the company with the assistance of a committee of inspection.

SOCIETY OF CHEMICAL INDUSTRY: *London Section*.—On Monday next, May 7th, a meeting of this section will be held at Burlington House, when papers will be read by Mr. Claude Vautin on "The Commercial Electrolysis of Fused Salts;" and by Messrs. Stanger and Blount on the "Testing of Hydraulic Cements."

SOCIETY OF CHEMICAL INDUSTRY: *Liverpool Section*.—Last Wednesday the paper on "The treatment of gold at the Witwatersaand (Transvaal) Gold Field," which was read by Mr. H. E. de Mosenthal at the last meeting of the London section was again read before the Liverpool section and was illustrated with specimens, diagrams, and lantern slides.

THE VITRIOL WORKS AT JOHANNESBURG.—These works, which have been erected by capitalists of this country, and are of such a size as to be capable of turning out 2,000 tons of acid annually, obtain their sulphur from pyritic concentrates, the burnt ore being subsequently treated to extract the gold which it contains. The demand for the acid, which is used in chlorination works, is rapidly increasing, being cheaper than imported acid.

THE PINNACLE SOAP STAND.

IT is a well known feature of the ordinary soap dish that it does not efficiently drain the adhering moisture from a cake of soap when placed in it after use. The Pinnacle stand has been invented to get over the difficulties which arise out of the foregoing fact. This is done in the manner illustrated in the accompanying sketch, by allowing the air to circulate all round the soap, thereby hardening it and preventing it sticking to the dish. In consequence it can be easily picked up when wanted, and is always dry and pleasant to use.

It is a pretty generally known fact that a very large percentage of a cake of soap is lost by not being allowed to dry thoroughly after using, as the cake is usually laid in the dish, where it softens, gelatinizes, and is wasted, as well as being rendered unpleasant to handle. This little convenience and economiser is patented and made by Messrs. B. T. Milligan, of 43, Cannon-street, Manchester, Messrs. J. Woolley and Sons of the same city being the wholesale agents The stand is made of good indiarubber, and will therefore last for a very long time, while the price of 9d places it within the reach of all classes. It is made in three shapes, round, oval, or rectangular, to fit any soap dish. It can also be used alone on a laboratory or bath slab, experience proving that when used without a dish to form a rim, the soap does not as easily slip off the stand as at first sight might naturally be supposed.

SOCIETY OF CHEMICAL INDUSTRY.

SCOTTISH SECTION.

THIS Section had a meeting in Glasgow on Tuesday, May 1st, at which Dr. Clark presided. After some routine business, a paper on "The Suitability of Water for Dietetic Purposes as Shown by Chemical Analysis" was read, being the production of Mr. R. R. Tatlock and Mr. R. T. Thomson in collaboration, as the result of experiments carried on over a series of years. The paper referred specially to contamination arising from sewage, and began by giving the analysis results of samples of Glasgow sewage taken hourly over a period of one day from outfalls in the east end and south side. It set forth the composition of sewage in respect to albuminoid ammonia and free ammonia. The relative presence of these in a sample of water, and their ratio to each other, were points of the first importance, not only in proving that the water had been injured by the admixture of sewage, but also as a means of measuring the amount of sewage the contaminated water contained. The detection and estimation of nitrates and nitrites were also matters of great importance. Messrs. Tatlock and Thomson's series of experiments included the analysis of hundreds of samples of water used more or less for drinking or dietetic purposes. One conclusion arrived at was that no sample under analysis was free from suspicion which was found to contain more than 0·02 of free or saline ammonia per gallon, or its equivalent in nitrates, that being permissible only when a high percentage of albuminoid ammonia was due to the presence of vegetable matter. The value of the "oxygen absorbed" and of the chlorine was also dealt with in the paper, leading to the conclusion that the latter was of no value at all, notwithstanding the reliance that had been so largely placed in it as a test. Reference was made to the analysis of samples taken from deep bores, where it was almost impossible to believe in the intrusion of sewage contamination. Wherever analysis found matter, which might be held as traceable to "previous sewage contamination," they felt themselves bound to condemn that water, unless it could be absolutely proved from an inspection of the district from which the samples were taken that no sewage contamination was possible. The paper was reinforced by several tables of analyses, which were not read in detail, but quoted as occasion required by the reader, Mr. Thomson. At the conclusion, Dr. Clark, the chairman, spoke at some length, agreeing in the bulk with the authors, but pointing out several points still left in doubt, and alluding to the place of bacteriological examination in these remarks. Mr. E. C. C. Stanford followed in a similar partially-satisfied strain, and thereafter Professor G. G. Henderson—the sum of the discussion showing that in this important matter of water analysis and sewage contamination, chemical research is still a long way distant from the desired goal of absolute precision as regards incontestable fact. The paper was followed with the closest interest by every member present, the paramount importance of the subject being apparently recognised by all.

SEWAGE AND RIVER POLLUTION ITEMS.

AT the meeting of the Manchester City Council held this week, Ald. J. Thompson stated that the *Manchester Sewage* was not sent into the river untreated. They were now treating the sewage of the whole area of the city, representing a population of 265,365 people. Mr. Thompson also made a statement showing the progress which was being made by the Mersey and Irwell Joint Committee in the work of preventing the pollution of the waters flowing into the Canal.

Mr. Phillips, at the last sitting of the Salford Town Council, directed the attention of the Health Committee to the *Dredgings of the Ship Canal*, chiefly composed of filthy mud, which were being placed in the disused bed of the Irwell. The Chairman of the Committee in reply said he had walked from No. 8 dock of the Canal to Mode Wheel, past the place where the sludge was being deposited in the old bed of the river He quite agreed that what was being done was most offensive. With the gases bubbling up as they were, and with putrefying dead dogs as numerous as they were in the neighbourhood, he felt that when the hot weather came the health of the neighbourhood was bound to suffer. But he did not see what the Ship Canal Company could do unless they were to carry the sludge out to sea. The Mayor promised to bring the matter under the notice of the Ship Canal Company. The *Salford Sewage Scheme*—as prepared by the Borough Engineer and set forth in his report—would, Mr. Groves informed the Council, be brought forward at the next meeting. Ald. Walmsley explained to the Council what the Irwell Conservancy Committee had been doing to prevent the pollution of the river by the effluents from dye and copper works, etc., and in moving the adoption of the minutes of the Committee asked the Council, while not approving of any definite scheme, to approve of the principle of filtration. The conclusion appeared to have been arrived at throughout the Kingdom that without filtration or land treatment sewage could not be dealt with, and he felt satisfied as good a result could be got from filtration as from land treatment.

TIPS FOR TRADERS.

THE development of the mineral resources of Mozambique is progressing well, and a code of mining laws has been framed.

SALT and PAPER have both been imported into British India in smaller quantities during the last three years or so.

MYRABOLAMS and CASTOR OIL have also been exported from the same place in less quantity than formerly.

RUBBER TREES it is suggested might be used instead of valueless species for shading the cacao-plant and banana, which are so largely cultivated in Columbia. The rubber trees would be fit to yield crops just when the banana begins to fall off in productiveness.

LITHOGRAPHIC STONE, which according to reports of experts is of excellent quality, has been found in considerable quantity in the island of Mayo, New Caledonia The stone is said to be superior to that which comes from Munich. This discovery may retard the substitution of aluminium plates for stone in lithographic work.

RUBBER production in Assam is no longer to be controlled by a licensing system, owing to the loss created by illicit tapping of trees by hill tribes. A duty of 12 rupees per maund, however, is instead placed on all rubber obtained from Government forests or imported across the border.

TARIFF CHANGES.

There are from time to time many alterations in the Customs' regulations abroad, which it is as well for those trading in chemicals, oils, paints, and raw materials to be acquainted with. The following are some of the most recent changes of interest to the foregoing:—

COPPER and ALLOYS of Copper, Zinc, and Tin, &c., imported into Sweden are subject to duty as follows:—Wrought, in sheets, 5/8d. per kilogramme; tubes, 5/8d. per kilogramme; bolts and nails, *free*.

COPAL exported from German East Africa is subject to a total duty of 16 5 per cent.

, which is a Government monopoly in Italy, has been raised in a recent decree to 40 centimes (about 4d.) per kilogramme.

ONSEED HULLS are admitted into the U.S.A. duty free, as crude e substances.

R SPAR ground into an impalpable powder is, under the New Tariff, section 4, dutiable at 20 per cent.

OW, Hides, and Ores for treatment are exempt from the duty of nt. *ad. val.* which is now imposed upon all articles imported into

IMPORTS AND EXPORTS FOR MARCH.

Board of Trade returns for the past month are not very satis- tory, even after making due allowance for the disturbance y the Easter holidays falling in this month. In the imports, ls show an increase, chiefly due to indigo, of which 16,340 cwt. ported. Oils, however, show a decrease.

IMPORTS OF FOREIGN AND COLONIAL PRODUCE.

ARTICLES.	Quantities. 1893.	1894.
ne ..... Cwt.	106,447	106,746
Ore and Regulus ..... Tons.	18,104	14,048
lry and wet ..... Cwt.	73,502	85,991
of Soda ..... Tons.	19,601	11,089
and Stearine ..... Cwt.	53,703	72,779
..... Cwt.	68,790	73,371

EXPORTS OF BRITISH AND IRISH MANUFACTURES.

ARTICLES.	Quantities. 1893.	1894.
..... Cwt.	688,709	458,281
..... Tons.	39,277	36,411
d Coke ..... Tons.	2,410,855	2,383,889
all kinds ..... Cwt.	134,560	87,124
d Steel ..... Tons.	220,837	196,309
il Manures ..... ,,	39,523	36,258
ed ..... ,,	6,684	5,901
..... ,,	56,471	66,473

THE GAS SUPPLY OF LONDON.

quality of the gas supplied to the City of London for ne week ending April 14th, 1894, was good. According report of Mr. W. J. Dibdin, chemist and superin- gas examiner to the London County Council, the tests made at ous testing stations showed no deficiencies in illuminating The following figures have been prepared from the and show the average composition of the gas calculated on n test:—

mpany.	No. of districts tested.	Illuminating power (in stand. sperm candles). Mean average.	Sulphur. Grains in 100 cb. ft. Mean average.	Ammonia. Grains in 100 cb. ft. Mean average.	Sulphuretted Hydrogen
t and Coke Co.	13	16·29	10·26	0·36	Nil.
tropolitan Gas	6	16·78	10·71	0·45	Nil.
ial Gas Co. ..	2	16·50	8·25	0·60	Nil.

upply for week ending April 21st was also good.

mpany.	No. of districts tested.	Illuminating power (in stand. sperm candles). Mean average.	Sulphur. Grains in 100 cb. ft. Mean average.	Ammonia Grains in 100 cb. ft. Mean average.	Sulphuretted hydrogen.
t and Coke Co.	14	16·30	9·78	0·46	Nil.
tropolitan Gas	6	16·56	10·40	0·51	Nil.
ial Gas Co. ..	2	16·50	8·20	0·60	Nil.

standard gas supplied by these companies should have an ting power of 16 sperm candles, and contain not more than 22 f sulphur and 4 grains of ammonia per 100 cb. ft. of gas on an of three days with a pressure of one inch between sunset and t, and six-tenths of an inch between midnight and sunset.

Trade Notes.

THE AMERICAN COAL STRIKE.—Last week three thousand miners marched upon Toluca, the centre of the Illinois coal region, in order to compel the men there to strike. Troops have been ordered to Toluca to protect workers. Fifty lake steamers are lying idle at Buffalo for lack of coal The railroads are also affected by the strike.

THE YORK SEWAGE WORKS.—We are informed that Messrs. Goddard, Massey, and Warner, Nottingham, have had their tender for the erection of plant for the treatment of sewage accepted by the York City Council. The apparatus includes engines, pumps, sludge-presses, air-compressers, lime and mixing machines. The whole is to cost £4,161.

STOPPAGE IN THE COAL TRADE.—Messrs. Newton, Chambers, and Co., of Thorncliffe Collieries, Sheffield, have offered a very practical proof of the state of the coal trade. Mr. A. M. Chambers last week asked a deputation from the men employed in the Tankersley thin seam pit of the company to meet him, and he informed them that in consequence of the constant loss by the working of the pit the directors had decided to close it. He assured the men that under their present policy it was impossible to work the pit except at a loss. The men, numbering some 500, received notice last Tuesday.

THE STORAGE OF PETROLEUM FOR STEAMER FUEL.—At a special meeting of the Wallsend Local Board, held recently, plans were submitted by the Wallsend Slipway and Engineering Company, Limited, for the site of iron tanks, to be used as a storage for petroleum for the supply of steamers adapted to the new method of firing with petroleum instead of coal. Mr. Boyd, managing director for the firm, having assured the Board that the proposed tanks would be properly enclosed, and that the local authorities would be afforded every facility for inspecting and testing the contents, it was unanimously resolved that the necessary licence be granted by the Board.

MILK ADULTERATION: HEAVY FINE.—Thomas Hughes, farmer, Moston Lane, was summoned at the City Police Court, last week, for selling adulterated milk. Some time ago Inspector Holland, acting under the provisions of the Food and Drugs Act, purchased a sample of milk from the defendant's son. A portion of it was sent to Mr. C. Estcourt, city analyst, for analysis, and he found that it contained 5 per cent. of added water and had had 17 per cent. of fat abstracted. A second purchase was made and submitted to analysis, but was found to be pure milk. The defendant was fined £5. and costs. Mr. A. T. Rook, Superintendent of the Sanitary Department, prosecuted.

WHY NOT TAX PETROLEUM?—Mr. H. M. Cadell, in view of the extent of the imports of foreign mineral oil, suggests that, in his opinion, it would be wise policy if the Government would lay a penny a gallon on such oil instead of on the already heavily-loaded incomes of patient taxpayers. This would produce a substantial revenue, and at the same time prevent the total annihilation of an important home industry, the throwing idle of thousands of industrious workers, and the loss of millions of valuable capital invested in our oil works and mines. Already, he said, the import of one sort of fuel—tobacco—was taxed, and experience showed that the duty in no way decreased the consumption; and while tea, which was now far more of a necessity than oil at 3d. a gallon, was still subject to duty, he did not see how there could be any real objection, other than that of mere sentiment, to the raising of much needed revenue by the impost of a small duty on every gallon of mineral oil landed on our shores.

A STARTLING BOILER EXPLOSION.—A boiler explosion, which caused some alarm and considerable damage, occurred last week on property belonging to Messrs. Read, Holliday, and Co., chemical manufacturers, Huddersfield. The firm is sinking a pit shaft adjacent to their works at the end of Kilner Bank Wood, and for that purpose had erected an engine, boilers, sheds, and other necessary buildings. There were two boilers. The one which exploded was perpendicular, of twelve-horse power, and generating steam which was sent through the same pipe as steam from the other boiler, and the two drove an engine for the purpose of pumping and winding from the shaft. Lately there has been a great deal of water in the shaft, and 12,000 gallons per hour have been raised. This boiler had been used by Messrs. Read, Holliday, and Co. for about three months, and was formerly owned by Messrs. Latham and Clements, boilermakers, Turnbridge, who for some time had let it out on hire to different parties. Before Messrs. Read, Holliday, and Co. had it it was tested several times up to 120lb. pressure. As far as can be ascertained the boiler was suddenly hurled into the air over trees and fell into the river, which runs at a lower level some distance away. The boiler gave way over the fire-box. Shortly before the explosion the steam gauge showed 60lb. pressure, and the water gauge 3in. of water.

Market Reports.

TAR AND AMMONIA PRODUCTS.

Benzol, both 90's and 50/90's, is much the same as last week in position and price, resulting in the notable fact of solvent naphtha being dearer than 90's benzol, an all but unprecedented occurrence. Crude carbolic acid (60%) and crystals (40%) are in fairly good demand at 1s. 7d. and 6¼d. respectively. Solvent naphtha is still quoted 1s. 2d. and crude (30%) 6d. per gallon. Pitch keeps steady at 27s., f.o.b. East Coast, and anthracene is stationary at 1s. 1d. for 30% A and 10d. for B.

Sulphate of ammonia continues on the decline, and dealers are active in furthering the downward movement. The "bears" are so satisfied with the results of their operations that some quite anticipate a price of £12. before June. The following may be taken as about the nearest true values: Beckton £12. 17s. 6d., London outside makes £12. 17s. 6d., Liverpool £12. 17s. 6d., Hull £12. 18s. 9d., Leith £13.

REPORT ON MANURE MATERIAL.

Throughout the week the market has been quieter, and as the close of the manure season approaches, the buying becomes more "hand to mouth." The position of mineral phosphates is unchanged. Shippers of 75/80% Florida and other high grade rock show disposition to meet buyers, but supplies of lower grades being less plentiful, shippers still maintain a firm attitude. There is good inquiry for cargoes of River Plate bones, Summer-autumn shipment, and there would probably now be buyers at £4. 15s., delivered good United Kingdom ports. bone meal is easier, and for May-June shipment £4. 15s. has been accepted for fair average quality Bombay. £4. 12s. 6d. would do for parcels on the way but too late for the season, but for September-October steamer shipment £4. 17s. 6d. required. £4. 15s. would probably do for crushed Kurrachee bones for autumn steamer shipment. Nitrate of soda is easier, and somewhat irregular in price. Spot value is 10s. 1½d. per cwt., but for delivery next week 10s. is full value. Cargoes arrived at port of call are now not worth 10s., and for those due but not arrived considerably less would have to be taken.

THE METAL MARKETS.

LONDON, Wednesday.—Pig iron, dull: Scotch warrants closed at 42s. 6d., Middlesbrough 36s. cash, and hematite 44s. 8d. Copper, weaker: Chili bars, G.O.B.'s and G.M.B.'s, closed at £39. 8s. 9d. to £39. 13s. 9d. cash, and £40. to £40. 5s. three months. Tin, easier: Straits closed at £72. 15s. to £73. 5s. cash, and £73. 5s. to £73. 7s. 6d. three months; Australian, £73. 7s. 6d. Lead, quiet: Spanish, £9. 1s. 3d. to £9. 2s. 6d.; English, £9. 2s. 6d. to £9. 5s. Silesian Spelter, ordinary, £15. 15s. Nickel, 1s. 8½d. Antimony, £34. 10s. Quicksilver: first and second hands, £6. *Copper shares*, easier: Cape, 1⅜ to 1½; Copiapo, 1 11/16 to 1 13/16; Libiola, 3 to 3¼; Mason and Barry, 2 5/16 to 2 11/16; Rio Tinto, 14 5/16 to 14 9/16; Tharsis, 4½ to 5.

WOLVERHAMPTON, Wednesday.—The new sliding scale in the coal trade caused sellers to be less inclined to make concessions this afternoon, both in fuel and iron. The furnaces and forges are moderately engaged. Good Staffordshire forge pigs, 45s. to 46s.; foundry ditto, 48s. to 50s.; common forge, 37s. 6d.; foundry ditto, 40s.; R.H. crown bars, £5. 12s. 6d.; angles, £6. 2s. 6d.; plates, £6. 12s. 6d.; Ravensdale hoops, £6. 10s. The Corrugated Iron Co. are putting down four new puddling furnaces.

MISCELLANEOUS CHEMICAL MARKET.

There is no material change to report in any of the staple products of the alkali trade. For caustic soda, current quotations, subject to usual variations, are as follow:—F.o.b. Tyne, 77%, £10. 7s. 6d.; f.o.b. Liverpool, 74%, £10.; 70%, £9.; 60%, £8. per ton, 10-ton lots and upwards. Bleaching powder, £7. 10s. nett; softwoods, f.o.r. makers' works, and £8. nett f.o.b. The demand for soda ash and ammonia alkali continues dull: Prices are nominally unchanged at 1d. per degree for Leblanc makes, and 58% alkali at £3. 2s. 6d. per ton, bags, f.o.r. makers' works. Chlorate of potash, 7¼d. per lb.; soda, 8½d. Recovered sulphur quiet, and price remains at £3. 17s. 6d. to £4. per ton f.o.r. Sulphate of copper steady, at £15. 5s. to £15. 10s. per ton f.o.b. Acetates, generally, are still depressed, and without any further change in quotations. White powdered arsenic continues scarce, and price is firm at £14. 5s. to £14. 10s. nett per ton f.o.r. Garston. Yellow prussiate of potash, 10½d to 10¾d. Nitrate of soda is in good demand, and firmer in tone. Prices, however, remain about the same, viz., 10s. 3d. to 10s. 4½d. for spot parcels. The big drop in the price of borax has not caused any rush of buyers, and business in the article is decidedly dull. Carbonate and caustic potash move freely, and full figures are being readily obtained. Prices for caustic to-day average £20. for 75/80%, and £21. for 80/84%; carbonate, £17. per ton, all ex ship. Oxalic acid does not sell so readily, and though nominally unchanged, is rather weaker. Ammonia salts are still strong, and prices are well maintained, £25. being quoted for grey, and 3¾d. and 4d. for carbonate. Salammoniac, 37s. and 39s. Sulphate of iron is in considerably greater supply than demand, and prices continue unusually low. Sulphuric and muriatic acids are in fairly good request at former prices. Owing to the general depression amongst the textile trades, business in fine chemicals is exceedingly dull.

LIVERPOOL OIL AND COLOUR MARKET.

Wednesday.

OILS.—Palm oil, after a slight easing off, is again firm, with a brisk forward business doing, Lagos having been sold at £21. 10s. per ton, soft oils £20. 5s., and hard oils £20s. 10s., all transit. Olive is still only in limited demand, prices running from £29. to £37. per ton, according to quality. Linseed keeps very firm, and sellers are slow to offer Liverpool makes in export casks at 21s. 3d. to 21s. 6d. per cwt. Cottonseed maintains its price with a steady market at 21s. 3d. to 21s. 9d. per cwt. for Liverpool refined. Castor oil is pretty steady, though the demand is rather short: good seconds Calcutta is firm at 2¼d. and 2⅜d. for ex quay and store respectively. First pressure French, however, is easier at 2 5/16d. per lb. ex quay. Tallow keeps very firm in tone, but so far at the expense of doing business. Resin is moving fairly well at 3s. 9d. per cwt. for common, other grades unaltered. Spirits of turpentine were quieter early in the week, but are now steady with a moderate request at 22s. 6d. to 22s. 9d. per cwt. Petroleum without change at 3⅝d. to 3¾d. for American, and 4½d. to 5½d. per gallon for Russian refined.

COLOURS are steady without alteration in prices. Ochres: Oxfordshire, common, £10., medium, £12., best, £15.; Derbyshire, common, 40s.; medium, 50s., best, 60s.; Welsh, best, 70s., seconds, 50s., and common, 18s.; Irish, Devonshire, 40s. to 45s.; French, J.C., 55s. to 60s.; M.C., 65s. to 67s. 6d. Umber: Turkish quiet; Devonshire, 50s. to 55s. White lead, and oxide of zinc unchanged. Venetian red, £6. 10s. to £10. Cobalt: Prepared oxide, 9s. 9d.; black, 9s.; blue, 6s. Zaffres: No. 1, 3s. 6d.; No. 2, 2s. 6d. Oxide of iron: Common, £6.; medium, £10.; finest, £20. Zinc oxide, £23. to £25.

WEST OF SCOTLAND CHEMICALS.

Glasgow, Tuesday.

The most active part of the northern market this week is that probably of mineral oil and paraffin products, but, unfortunately, the activity is not exactly healthy. Some of the makers are more than suspected at selling at a forced reduction so as to add to the bulk of the transactions standing to the credit of the financial year 1893-94, now on the point of being closed. Burning oil is nominally unchanged, at the price given below; but inducements to speculative buying have been offered in some quarters at a shade less. The same has been going on in lubricating oils, and these have to be marked down all round.

Sulphate of ammonia, also, has been unduly depreciated owing to the same cause, one or two of the mineral oil companies being known to have parted at £13. prompt, about the close of the week, so as to get the sales included in the year's accounts. This incentive to depreciation will be soon over, but the resulting damage will make itself felt on the market for some little time at least. Sulphate for July to Sept. delivery is being quoted at £13. 10s.

General chemicals show no important change, but quotations of both caustic and bleach are a shade easier, and nitrate of soda is cheaper.

Chief prices current are:—Soda crystals £2. to £2. 2s. 6d. nett, Tyne; soda ash 48/52° £3. 12s. 6d. to £3. 17s. 6d. nett, Tyne; white alkali 48/52° £4. 10s. to £5. 5s. nett, Tyne; alum in lump £5. 10s. nett, Glasgow; caustic soda, white, 74° £10., 70/72° £9., 60/62° £8. 2s. 6d., and cream 60/62° £7. 17s. 6d., all nett, Liverpool; bleaching powder £6. 12s. 6d. to £7. 10s., nett, Tyne; saltcake, 17s. 6d.; borax, English refined, £30., and boracic acid, £37. 10s. nett, Glasgow; bicarbonate of soda, 5-cwt. casks, £6. 10s., and 1 cwt. casks £6. 15s. nett, Liverpool; bichromate of potash, 4½d. nett, for Scotch and English deliveries (for export, 4¼d. nett, f.o.b. Glasgow); bichromate of soda, 3¾d. nett, for Scotch and English deliveries (for export, 3½d. nett, f.o.b. Glasgow); chlorate of potash, 7¼d. less 5%, Liverpool; nitrate of soda, 10s. 6d.; sulphate of ammonia, prompt, £13. to £13. 2s 6d. nett, f.o.b. Leith;

, first and second white, £39. and £37. nett, any port ; pper, £15. 10s., less 5% Liverpool; paraffin scale, hard 1⅞d. 2d. per lb. ; paraffin wax 120° semi-refined 2⅜d. to 2½d. ; t (naphtha), 3½d. to 4d. per gallon ; paraffin oil (burning), 1 grade, 5d. at works, for Scotch buyers (English sales, lower) ; ditto (lubricating) 865° £3. 10s. to £3. 15s. ; £4. 15s., and 890/895° £4. 15s. to £5. 10s. Week's w sugar at Greenock were 17,976 bags, and 2,502 baskets.

TYNE CHEMICAL REPORT.

TUESDAY.

, so far as prices are concerned, remain unaltered. Ship- ver, are being made much more freely, and there is perhaps r inquiry. Bleach is firm at £7. 5s. and £7. 10s. Sulphur nand at £3. 17s. 6d. Other quotations as under : Powder, softs, £7. 10s. per ton, nett; hards, £7. 15s. per ton, : soda, 76/77%, £10. 15s. per ton, nett; do., 70%, £9. recovered sulphur, 2 cwt. bags, £3. 17s. 6d. per ton, nett; 8%, £3. 12s. 6d. per ton, nett; do., 52%, £3. 16s. 3d. t ; do., 56%, £4. per ton, nett ; alkali, 36%, £2. 15s. ; white alkali, 48%, £4. 10s. per ton, nett; do., 50%, £4. nett; do., 52%, £5. 5s. per ton, nett; hyposulphite of t. casks, £5. per ton, nett ; do., 1 cwt. kegs, £5. 10s. ; silicate of soda, 75° Tw., £2. 17s. 6d. per ton, nett ; w., £3. 12s. 6d per ton, nett ; do., 140° Tw., £4. ett ; soda crystals, casks, £2. 2s. 6d. per ton. t ; do., 2 cwt. bags, £2. 2s. 6d. per ton, nett ; potash, 7½d. per lb., less 6% ; pearl hardening, , nett; pure white sulphate of alumina, £4. 2s. 6d. ; blanc fixe, £7. 10s. per ton, nett; chloride of barium, ton, nett ; carbonate of alumina, £28. 15s. per ton, nate of soda, £33. 15s. per ton, nett; in 5 ton lots, £28. nett.

rham Salt is still scarce and firm at 10s. per ton, f.o.b.

rather quieter, and the present output fully equal to the Best Northumbrian steam, 10s. and 10s. 3d. ; second 6d. and 8s. 9d. ; small steam, 4s 6d. per ton. Bunker Unscreened 6s. 9d., up to 9s. 6d. for best screened. Coke 3s. and 14s. per ton.

PAINT, OIL, AND COLOUR REPORT.

TUESDAY.

The only noticeable feature this week is how steadily the outrunning the supply. Still it is of little value, for or cargoes of seed are due to arrive at any time. The is due here on the 5th with 16,000 qrs. of linseed from id the ss. *Lady Palmer* due on the 4th, 1,970 tons, and with 2,090 tons, both with cottonseed from Alexandria. he principal imports into Hull up to date in 893 are the following :—Linseed 159,890 qrs., against ; rapeseed 42,357 qrs., against 15,814 qrs. ; cottonseed against 98,219 tons ; olive oil 7,753 casks, against 4,401 oil 3,051 casks, against 2,810 casks ; oil cakes 8,487 tons, 5 tons ; tallow 5,364 cwts., against 10,823 cwts. ; bones against 2,716 tons ; turpentine 4,300 barrels, against 3,426 nseed oil has improved about 10s. per ton on the spot, t at 19s. 4½d. naked ; May-August, 19s. sellers, and December is quoted 18s. 1½d.. Refined cotton oil steady naked spot ; May-August 19s. 4½d. buyers. Crude oil pe and olive oils unchanged. Turpentine, 22s. 9d. per r oil, first pressure, from 2¼d. per lb. Cod oil, coast and nd, from £17. to £19. per ton. Sod oil, for tanners, , from £16. per ton. Pale seal oil, £20. Arctic sperm 24. 10s. Engine and cylinder oils from 1s. to 2s. per

—The prices now stand more in line with other feeding a good trade is anticipated. Linseed cakes are 2s. 6d. on lower on the week ; 95% pure, £7. 7s. 6d ; Russians, £7. 10s ; Polish, £7. 7s. 6d. Oil cakes, £6. 7s. 6d. to Cotton cakes : A very fair demand for best makes, but ntinue neglected—Best makes, £4 5s. to £4. 7s. 6d. ; 4. 2s. 6d. Rape Cakes : East India, £4. 5s. ; £3. 10s. per ton.

—The season for these goods is developing satisfactorily, g liberal and plentiful. Prices are :—White lead in oil, r ton ; red lead dry, £13. 10s. per ton ; Venetian red dry, £10. per ton. Oxide of iron, dry, from £9. to £18. ; 60s. per ton ; Cumberland, 65s. ; Derbyshire, 60s. d paints in various sized tins from £26. per ton. Lime blue, . Common black varnish, £5. 10s. per ton in barrels

New Companies.

P. S Phillips, Limited.—CAPITAL £200,000., in shares of £10. each. This Company has been formed to acquire and work certain iron and tin-plate works in Monmouth and Glamorgan. The subscribers to the memorandum of association are : P. S. Phillips, Pontyminster, tinplate manufacturer ; P. C. Phillips, Pontyminster, tinplate manufacturer ; E. Kryne, Llanhennog, Cuerlon, mining engineer ; J. E. Ward, Newport, solicitor ; E. Coulman, Newport, solicitor ; F. A. Phillips, Exeter College, Oxford, undergraduate ; L. Charles Corfield, Pontynns, Mon., works manager.

The Smokeless Powder Co., Limited.—CAPITAL £60,000., in shares of £1. This Company has been formed to enter into an agreement with the Smokeless Powder Co., now in liquidation, and to manufacture and deal in explosives of all kinds. The subscribers to the memorandum of association are :—J. D. Dougall, Dashwood House, E.C., gentleman ; F. Henderson, 51, Belgrave-road, S.W., lieutenant-colonel, retired ; M. S Vanderbyl, Wimbledon, gentleman ; J. D. S. Bogle, 34, Copthall-avenue, E.C., chartered accountant ; N. Mackinnon, 12, Taviton-street, W.C., retired colonel ; F. W. Jones, Barwick, near Ware, Herts., chemist ; S. G. Duff Grant, Dashwood House, E.C., gentleman.

The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of George E. Davis and Alfred R. Davis, who report professionally upon the value of Chemical Patents.

APPLICATIONS FOR ENGLISH LETTERS PATENT.

Agitators for Heating or Cooling Pans for Liquids, Starch, Pastes, or Colours. C. F. Young. 7,492. April 16.
Improved Soap. F. Back and E. Wippern. 7,519. April 16.
Protecting Iron from Rust. W. H. Dowland. 7,528. April 16.
Recovering Tin from Tin Scrap. H. A. Martin. 7,544. April 16.
Manufacture and Use of Fatty Acids. J. Y. Johnson. 7,548. April 16.
Manufacture of Cyanides. G. T. Beilby. 7,554. April 17.
Method of Sewage Purification. G. C. Purvis. 7,574. April 17.
Production of Nitric Acid, and Nitrates of Soda, Potash, and Lime. F. Hamer. 7,578. April 17.
Injectors. J. A. Morris, T. Hatch, and C. Mather. 7,588. April 17.
Smoke-Consuming Furnaces. W. Heywood. 7,595. April 17.
Manufacture of Cyanides and Ferrocyanides by Electricity and Preventing the Corrosion of Vessels. C. J. Hammerton. 7,603. April 17.
Apparatus for Applying Paint, etc. J. F. Redman. 7,629. April 17.
Improved Manufacture of Phosphorus and Compounds thereof. A. Shearer and R. R. Clapp. 7,636. April 17.
Apparatus for Drying Organic or Inorganic Substances. W. Lawrence. 7,651. April 17.
Apparatus for the Treatment of Sewage, etc. F. W. Stoddart. 7,656. April 18.
Improved Production of Sodium and Potassium. C. M. Pielsticker. 7,671. April 18.
Improved Production of Metallic Alloys. C. M. Pielsticker. 7,672. April 18.
Method and Apparatus for Filtering Auriferous Solutions. A. B. Glen and T. Lockerbie. 7,769. April 19.
Artificial Fuel. G. S. Cory and C. Cory. 7,772. April 19.
Improved Electrolytic Apparatus. 7,801. April 19.
Purifying Fats and Oils. W. B. Leachman. 7,846. April 20.
The Electrodeposition of Heavy Metals with a Base Metal Alloy. W. A. Thoms and W. H. Burgum. 7,853. April 20.
Coating Metals with a Metallic Alloy. W. A. Thoms and W. H. Burgum. 7,854. April 20.
Purification of Anthracene. H. E. Newton. 7,862. April 20.
Apparatus for Bleaching Smoke. J. T. Sands. 7,893. April 21.
Testing Compressed Gas Cylinders. The Scotch and Irish Oxygen Co., Ld. and H. Brier. 7,914. April 21.
Improved Electrolytical Apparatus. H. Guthrie. 7,950. April 21.

Gazette Notices.

PARTNERSHIPS DISSOLVED.

G. A. PAYNE, T. DUNKLEY, W. SALTER AND T. R. T. MAURICE, manufacturers of porcelain enamel paint, Lanfranc-street, Westminster Bridge-road, S.W., under the style of the Porcelaine Co.

W. WESTWOOD AND J. BATES, under the style of the Willenhall Brick, Tile and Terra-Cotta Co., Willenhall, brick, tile, etc., manufacturers.

H. W. CULLUM AND H. W. CALLUM, JUN., cake and manure merchants, trading as Eye and Finningham, Suffolk, under the style of Cullum and Son.

BANKRUPTCY ACTS, 1883 and 1890.

Receiving Order.

LAKE, A. E., Clapham-road, S.W., and WILLIAMS, E. F., Charlwood-road, Putney, S.W. (trading as Lake and Williams Lime-street E.C., and as the South London Paint and Varnish Co.), Clapham-road, S.W., oil, paint and varnish merchants.

Adjudication.

WESCOTT JOHN AND WESCOTT WILLIAM (trading as Thos. Wescott and Sons) Wokingham, paper manufacturers.

IMPORTS OF CHEMICAL PRODUCTS
AT
THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending April 21st.

Acetic Acid—
Belgium, 2 pkgs. Leach & Co.
Holland, 34 J. Owen
" 135 A. & M. Zimmermann

Alkali—
Germany, 60 pkgs. L. & I. D. Jt. Co.
France, 308 P. Hecker & Co.
" 110 Arnati & Harrison

Alum—
Holland, 160 pkgs. Ohlenschlager Brs.

Alumina—
Germany, 500 pkgs E. J & W. Goldsmith

Antimony Ore—
Australia, 20 t. Harrold Bros.
Germany, 10 Hunt & Kerr
E. Turkey, 100 J Bamber

Asbestos—
Holland, £49 Phillipps & Graves
Belgium, 38 Schenker & Co.
Italy, 55 Bot. & Nich 's Wf., Ld.
" 560 Capt. Balmanno

Barium Chloride—
Germany, 14 pkgs. C. F. Gerhardt

Barytes—
Germany, 20 cks Steinhoff, Sons, & Co.
Holland, 19 Burrell & Co.
" 11 J. L. Lyon & Co.
Belgium, 200 bgs. Leach & Co.
" 44 R. Bew
" 28 J L. Lyon & Co.

Boracic Acid—
Italy, 9 pkgs R. Morrison & Co.
" 3 G. Boor & Co.
" 6 City Coml Wf, Ld.
Germany, 32 F. Boehm

Camphor—
Germany, 3 cs. L. & I. D. Jt. Co.
" 19 S. Figgis & Co.
" 2 cks. J W. Drysdale & Co.
China, 66 S. Figgis & Co.
" 100 R. Warner & Co., Ltd.
Japan, 74 tbs. "
" 64 L. & I. D. Jt. Co.

Caoutchouc—
Madagascar, 18 c. L. & I. D. Jt. Co.
" 20 Hammond & Co.
France, 4 Mory & Co.
E. Indies, 105 Vokins & Co.
Zanzibar, 4 L & I. D. Jt. Co.
Brazil, 27 Kleinwort, Sons. & Co.
Germany, 2 T. W & J. Walker

Castor Oil—
E. Indies, 216 cks. 111 pkgs. Ross & Deering
" 79 Cayzer, Irvine, & Co.
" 250 cs. H. A. Litchfield & Co.
Austria, 15 A. M. Serena & Co.

Chemicals *(otherwise undescribed)*
Germany, 35 pkgs. £5. L. & I. D. Jt. Co.
" 85 T. H. Lee
" 76 A. & M. Zimmermann
" 4 Phillipps & Graves
France, 22 Arnati & Harrison
U. States, 35 A. Hughes
Holland, £10 Vokins & Co.

Citrate of Lime—
Italy, 25 pkgs. B. Jacob & Sons

Cream of Tartar—
Holland, 16 pkgs. Kirkpatrick & Co.
France, 25 W. C. Bacon & Co.
" 3 B. & F. Wf. Co., Ltd.
Italy, 21 Howards & Sons

Dextrine—
Holland, 100 pkgs. A. G. Robinson & Co.
Germany, 300 W. Balchin

Dyestuffs—
Annatto
E. Indies, 19 pkgs. L. & I. D. Jt. Co.
Argols
Italy, 1,868 pkgs. B. Jacob & Sons
" 64 Thames S. T. & L. Co., Ltd.
Cochineal
Canaries, 54 pkgs. W. M. Smith & Sons
Cutch
E. Indies, 5 pkgs. L & I. D. Jt. Co.
Rangoon, 100 "
" 100 Arracan Co.
Divi Divi
E. Indies, 193 pkgs. Culverwell, Brooks & Co.
Extracts
France, 50 pkgs. B. & F. Wf. Co, Ltd
" 2 Union L. Co.
" 110 Prop. Hay's Wf
Belgium, 100 T. H. Lee
Denmark, 1 M. D. Co.
" 12 cs. A F. White & Co.
" 2 J. Sinclair & Son
U. States, 200 Boutcher, Mortimore, & Co.
Gambier
E. Indies, 221 pkgs. L. & I. D. Jt. Co.
Indigo
Holland, 10 cs. W. Balchin
E. Indies, 12 chts. Ernsthausen & Co.
" 141 L. & I. D. Jt. Co.
" 45 Elkan & Co.
" 5 Schenker & Co.
" 4 F. Huth & Co.
" 263 R. Von Glehn & Sons
" 24 Eales & Rutherford
" 142 Arbuthnot, Latham, & Co
" 47 W. Brandts, Son, & Co.
" 11 Kleinwort, Sons, & Co.
" 13 Patry & Pasteur
Madder
France, 2 pkgs. Skilbeck Brs.
Myrabolams
E Indies, 3,620 pkgs. L. & I. D Jt. Co.
" 1,366 J P. Alpe & Co.
" 2,732 A. Hagan
" 110 Darling Brs.
" 667 Whitstable S. Co.
" 2,657 W. Shelcott
" 683 Union L. Co.
Orchella
Madagascar, 11 pkgs. Prop. Bull Wf.
Portugal, 68 "
Saffron
Spain, 1 pkge Major & Field
Shumac
Italy, 150 pkgs. J. Graves
Tanners' Bark
Belgium, 10 t. Arnati & Harrison
Natal, 23 A. & W. Nesbitt
Adelaide, 20 Baxter & Hoare
N. Zealand, 11 Beresford & Co.
Turmeric
E. Indies, 150 pkgs. Hoare, Wilson, & Co.
" 50 Forbes, Forbes, & Co.
" 88 L. & I. D. Jt. Co.
" 23 Clarke & Smith
Valonia
A. Turkey, 2 t. M. D. Co.
" 180 Schloesser Brs.

Farina—
Holland, 500 pkgs. T. H. Lee
Germany, 10 Craven & Co.
" 250 Seaward Bros.
Holland, 25 J. Barber & Co.

French Chalk—
Italy, £113 W. Harrison & Co.
Austria, 40 "
" 50 Stobbs, Wilson & Co.

Gamboge—
E. Indies, 26 cs. L. & I. D. Jt. Co

Glucose—
Holland, 50 pkgs. 50 c. Prop. Sun Wf.
Germany, 25 201 Prop. Chmbln.'s Wf.
U. States, 1,560 1,560 "
" 3,451 7 786 L. Sutro & Co.
" 99 596 Page, Son, & East
" 200 200 N. S. S. Co.
" 500 500 Pickford & Co.
" 8 40 Beck & Pollitzer
" 50 300 Deering & Robottom
" 100 566 Pillow, Jones, & Co.
" 148 825 Prop. Scott s Wf.
" 500 500 R. G. Hall & Co.
" 500 500 C. F. Webster & Co.

Iodine—
Germany, 36 pkgs. A. Gibbs & Sons

Lead Acetate—
Holland, 12 pkgs. F. Boehm

Manganese—
Australia, 135 t. Harrold Brs.

Manure—
Germany, 103 t. Anglo-Cont. G. Wks.
" 50 Perkins & Homer
Sydney, 2 Beresford & Co.
Brisbane, 4 Houlder Bros. & Co.
Cape, 330 Matthews & Luff
E. Indies, 500 A. Hunter & Co.
" 130 Fox, Roy, & Co.
Belgium, 15 H. & E. Albert
" 10 B. Jacob & Sons
France, 200 Odam's Chmcl. Manure Co.
Germany, 118 J. Gibbs & Co.
" 60 Co-op Lgtge. Assn, Ltd.
" 155 Lawes Manure Co.
" 10 R. W. Greeff & Co.,
" 20 F. W. Berk & Co, Ltd.
Chili, 1,150 W. Montgomery & Co.

Methyl Alcohol—
Belgium, 10 cks. Lister & Biggs
" 5 dms. Stein Bros.
Holland, 100 pkgs. Lister & Biggs

Mica—
E. Indies, £110 W. M. Smith & Sons

Ochre—
Holland, 4 cks. 4 pkgs. Phillipps & Graves
France, 269 W. Harrison & Co.

Oxalic Acid—
Holland, 4 pkgs. Beresford & Co.

Paraffin Wax—
Germany, 2 cs. L. & I. D Jt. Co.
U. States, 2,376 brls. Anglo-Amer. Oil Co.
" 104 H. Hill & Sons
Germany, 8 cs. Drolenvaux & Bremner

Phosphate Rock—
Holland, 53 t. Little & Johnston
" 53 C. J. Capes & Co.
Araba, W.I., 350 G. M. Bauer
Belgium, 350 Leach & Co.
" 40 B. Jacob & Sons
France, 400 Arnati & Harrison
" 410 A. Hunter & Co.

Pitch—
Holland, 60 cks. W. Balchin
U. States, 10 brls. L. & I. D. Jt. Co.

Plumbago—
Ceylon, 192 brls. R. G. Hall & Co.
Germany, 48 pkgs. Lenty & Kessel
Holland, 20 cks. B. Gallaway
Germany, 75 cs. Prop. Scott's Wf.

Potash—
France, 177 c. Petri Bros.
Germany, 30 pkgs. L. & I. D. Jt. Co.

Potassium Carbonate—
Germany, 100 c. Spies Bros. & Co.
France, 150 J. A. Reid

Potassium Oxymuriate—
Belgium, 10 pkgs. G. Boor & Co.

Pumice Stone—
Canary, 136 t. W. G. Jacobs
Italy, 8 O'Hara & Hoar
" 7 Acton & Borman

Pyrites—
Pomaron, 990 t. Mason & Barry, Ld

Quicksilver—
Italy, 500 btls. L. & I. D. Jt. Co.

Rosin—
U. States, 5,830 brls. Moore & Hole
France, 13 C. W. Schmidt

Saltpetre—
Germany, 500 bgs. Anglo-Cont. G. Wks.
" 20 cks. Brown & Elmslie
" 84 Petri Bros.
" 120 P. Hecker & Co.
" 1,300 bgs. C. Wimble & Co.

Soda—
Germany, 50 c. H. Lambert

Sodium Acetate—
Belgium, 7 pkgs. Lister & Biggs

Sodium Nitrate—
Holland, 8 pkgs. Phillipps & Graves

Starch—
Belgium, 10 pkgs. Tingle, Jacobs & Co.
" 404 F. Rosenthal & Co.
" 588 T. H. Lee
" 80 Leach & Co.
Germany, 125 Seawa
" 880 Hort
" 155 Phillipps &
Holland, 64 "
" 1,110 Little & J
U. S., 300 Osw

Stearine—
France, 120 bgs. H. Hill
" 100 Walbaum &
Belgium, 63 H. Hill

Tar—
Germany, 1,237 brls Linck,

Tartaric Acid—
Holland, 81 pkgs. B. & F.

Ultramarine—
Holland, 15 cs. Hernu, Perc
" 4 Haeffner,
Germany, 32 pkgs. Steinh
" 4 cks. H.
Holland, 4 Phillipps &
Germany, 4 cs. L. & I. D

Varnish—
Germany, 20 pkgs. L. & I.
France, 3 Flageoll
" 15 Suter, H

Belgium, 11 Stobbs, Wilso
U. S., 3 Davies, Turn
" 21 Allan Br
" 15 Beck & I

White Lead—
Holland, 58 cks. T. & W. F
" 29 Burrel
Germany, 44 M. Ash

Wood Pulp—
Italy, 18 pkgs. Pillow

Austria, 588 J. Dickinso
Sweden, 6,067 Tough & He
" 8,768 Henderson,

Holland, 45 "
" 96 J. Dickinso
" 69 G. Rah
" 103 C. S.
Norway, 580 W. G. Taylo
" 5,660 C. Christo
Germany, 106 W. Fri

Zinc Oxide—
U. States, 100 brls. M. Ashb
Germany, 50 "
Holland, 100 "
" 125 cks. J.
" 500 Soundy
" 25 Burrel

LIVERPOO

Week ending April 19t

Acetate of Lime—
New York, 1,321 bgs. Man
Ship
" 5,187

Albumen—
Oporto, 5 cs D Mid

Ammonium Chloride—
Hamburg, 1 cs.

Antimony—
Antofagasta, 404 bgs. Hain

Antimony Ore—
Antofagasta, 806 bgs.
A
" 849

Barytes—
Antwerp, 34 cks.
Rotterdam, 9

Bone Meal—
Bombay, 3,500 bgs.

Borates—
San Francisco, 1,980 sks.

Borate of Lime—
Antofagasta, 444 bgs. D. Mac
" 375 Schwann
" 484 A. Gibbs, Son
" 1,500
Valparaiso, 952

Borax—
Leghorn, 20 cs.

raiso, 505 sks.
ue, 858 bgs
agasta, 1,084
chouc—
, 2 cks. 2 bgs. 213 pkgs. Cunard S. S. Co., Ld.
r Oil—
rn, 1 cs. Hunt & Co.
tta, 2,019 Ralli Brs.
750
cals *(otherwise undescribed)*
n, 34 bxs J. Cassels & Co
rs—
urg, 30 cs. 68 cks. 49 bgs.
rdam, 52
erp, 1
r Sulphate—
nore, 65 brls.
seed Oil—
York, 100 brls.
rdam, 1 pkge.
i of Tartar—
lona, 10 pps. 6 pkgs.
gona, 10 cks Sachse & Klemn
ine—
urg, 30 bgs.
uffs—
arobilla
raiso, 50 bgs. W. Macqueen
chineal
iffe, 20 bgs. Brown, Shipley & Co.
ri Divi
urg, 161 bgs.
tracts
York, 10 brls. T. Aitken & Co.
15 35 bxs.
s, 535 cks.
50
erp, 25
atic
, 1,364 ps. Widow Duranty & Son
acoalcos, 329 t. Browne, Graham & Co.
mbier
pore, 2,442 bls.
digo
tta, 63 chts. 1 cs.
dder
na, 2 bls.
rabolams
ay, 5,350 bgs. D. Sassoon & Co.
1,350 E D. Sassoon & Co.
1,700 Forbes, Forbes & Co.
310
shella
raiso, 16 bls B. F. Noabt
125 Sept. Cooban
36
n, 6 Edward Brs.
umac
mo, 100 bgs. J. Ritchie
409
lonia
300 bgs.
na, 38 50 brls Zerrudach Brs.
1,060 ktls. E Shahum & Co.
2,845 3,616 bgs.
se—
York, 1,041 brls.
irk, 240 bgs.
e—
raiso, 27 brls. A. Gibbs & Co,
47 Lantara Nitrate Co.
68 W. & J. Lockett
38
ue, 232 A. Gibbs & Sons
stone—
n, 1 crt. R. J. Francis & Co.
anese Ore—
enburg, 300 t.
tha—
York, 1,750 brls. Anglo-American Oil Co.
—
n, 6 cs. Hughes, Treleaven
15 A W. Sutton & Co.
20
fin Scale—
delphia, 146 brls.
hates—
erp, 250 bgs.

Potashes—
New York, 7 cks.
Hamburg, 36
Antwerp, 11 dms.
Portland, 12 brls.
Potassium Chloride—
Hamburg, 1,500 bgs.
Pumice Stone—
Leghorn, 10 bgs. 30 crts.
Messina, 55 cs. G. Thratind
Pyrites—
Huelva, 3,767 t. Matheson & Co.
" 1,100
Rosin—
Savannah, 2,600 brls.
Baltimore, 957
Salt—
Hamburg, 2 bgs.
Saltpetre—
Hamburg, 2 cks. 20 kgs
Calcutta, 123 bgs. Ralli Brs.
" 680
Soap—
Leghorn, 50 cs.
Newport News, 340 bdls.
Philadelphia, 38 cs.
Sodium Nitrate—
Valparaiso, 15,484 bgs.
Starch—
Bordeaux, 2 cs.
Newport News, 1000 bgs. Gabain & Co.
Boston, 300 sks.
Antwerp, 461 cs. J. T. Fletcher & Co.
" 190
Rotterdam, 165
Stearine—
New York, 13 hhds.
Antwerp, 14 bgs J. T. Fletcher & Co.
" 13
Sulphur—
Catania, 20 brls. 290 bgs.
Sulphur Ore—
Huelva, 1,486 t. Matheson & Co.
Tallow—
New York, 40 hds.
Havre, 1 pkge. Cunard S.S. Co., Ld.
San Francisco, 61 brls.
Hamburg, 1 ck.
Sydney, N.S.W., 855 Lever Bros., Ltd.
Philadelphia, 100 200 tcs.
B. Ayres, 100 cks.
Tartar—
Naples, 2 cks.
Bordeaux, 25
Ultramarine—
Hamburg, 4 cks.
Varnish—
New York, 4 brls. Henderson Brs.
Waste Salt—
Hamburg, 220 t. 1,000 bgs.
White Lead—
Rotterdam, 13 cks.
Wood Pulp—
Hamburg, 1 ble.
Boston, 174 rolls.
Wood Spirit—
Hamburg, 4 dms.
Zinc Oxide—
Rotterdam, 50 cks.
Zinc Skimmings—
New York, 38 brls.

MANCHESTER.

Week ending April 21st.

Acetic Acid—
Antwerp, 22 balns.
Alumina Sulphate—
Rotterdam, 64 cks.
Barytes—
Antwerp, 20 cks.
Carbonic Acid—
Rotterdam, 40 tbs.
Castor Oil—
Rotterdam, 100 cks. Simpson, Howden, & Co
Antwerp, 6 brls.
Chemicals *(otherwise undescribed)*
Rotterdam, 1 bx.
" 1 Simpson, Howden, & Co.

Chrome Chloride—
Rotterdam, 5 brls. Simpson, Howden, & Co.
Colours—
Rotterdam, 9 brls. 3 bxs
" 22 cks. 27 5 4 pkgs. Simpson, Howden, & Co.
Antwerp, 10 cs.
Cream of Tartar—
Rotterdam, 5 cks. 15 kgs.
Dyestuffs—
Alizarine
Rotterdam, 28 brls Simpson, Howden, & Co.
Extracts
Bordeaux, 50 cks. J. & P. Hutchinson
Dyestuffs *(otherwise undescribed)*
Rotterdam, 9 cks Simpson, Howden, & Co.
Farina—
Rotterdam, 100 bgs. Simpson, Howden, & Co.
Lead Acetate—
Rotterdam, 32 cks. Simpson, Howden, & Co.
Limestone—
Antwerp, 2 cks.
Potash—
Rotterdam, 20 cks.
Pyrites—
Huelva, 1,575 t.
Soap—
Rotterdam, 5 brls. Simpson, Howden, & Co.
Soda—
Rotterdam, 13 cks.
Starch—
Rotterdam, 224 cs.
" 120 50 bgs. 5 brls. Simpson, Howden, & Co.
Antwerp, 166 cs.
Tartar—
Bordeaux, 5 cks. J. & P. Hutchinson
Tartaric Acid—
Rotterdam, 20 cks.
Tin Perchloride—
Antwerp, 2 cks.
Ultramarine—
Rotterdam, 16 cs. 5 cks
Verdigris—
Bordeaux, 3 cks. J. & P. Hutchinson
Wood Pulp—
Rotterdam, 192 rolls.
Zinc Oxide—
Rotterdam, 75 cks. Simpson, Howden & Co.

HULL.

Week ending April 21st.

Acid—
Rotterdam, 4 cks. W. & C. L. Ringrose
" 10 cbys. Lofthouse & Saltmer
" 12 tbs. Wilson Sons, & Co., Ld.
" 10 cbys Hutchinson & Son
Antimony—
Hamburg, 10 cs. Lofthouse & Saltmer
Barytes—
Antwerp, 90 bgs. 22 cks. Bailey & Leetham
Rotterdam, 75 Hutchinson & Son
Bremen, 103 42
Antwerp, 100 Wilson, Sons, & Co., Ltd.
Castor Oil—
Leghorn, 2 cs. Wilson, Sons, & Co., Ld.
Genoa, 10 "
Chemicals *(otherwise undescribed)*
Stettin, 10 cks. Wilson, Sons, & Co., Ld
Copenhagen, 3 "
Hamburg, 2 "
Danzig, 10 pks. W. & C. L. Ringrose
Hamburg, 4 cs. Wilson, Sons, & Co., Ltd.
Antwerp, 234 pks. "
Colours—
Antwerp, 67 bgs. Bailey & Leetham
" 1 ck.
Rotterdam, 7 cs. 45 11 pks. Hutchinson & Son
" 23 25 39 W. & C. L. Ringrose
Flushing, 3 36 Hutchinson & Son
Ghent, 17 Tudor & Sons
" 11 brls.
Bremen, 3 Veltmann & Co.
Rotterdam, 3 Blundell, Spence, & Co.
Danzig, 7 Wilson, Sons, & Co., Ld.
" 40
Rotterdam, 5 W. & C. L. Ringrose
Hamburg, 11 Wilson, Sons, & Co., Ltd.
Antwerp, 100 sks. "
Cream of Tartar—
Rotterdam, 1 ck. 1 cs. Hutchinson & Son
Dyestuffs—
Alizarine
Rotterdam, 41 pks. 14 cks. W. & C. L. Ringrose
" 22 brls. Hutchinson & Son
Cochineal
Hamburg, 5 bgs. Wilson, Sons, & Co., Ld.
Fustic
Hamburg, 204 bgs. Wilson, Sons, & Co., Ltd.
Madder
Rotterdam, 7 cks.
Myrabolams
Bombay, 12,119 bgs
Orchella
Hamburg, 24 bls.
Farina—
Hamburg, 250 bgs Wilson, Sons, & Co., Ltd.
Harlingen, 1,050
Stettin, 790 "
Ghent, 380 cs. "
Amsterdam, 250 W. & C. L. Ringrose
Litharge—
Hamburg, 1 ck. Hanger, Watson & Harris
Ochre—
Marseilles, 9 cks. Wilson, Sons, & Co., Ld.
Rouen, 22
Paraffin Wax—
Hamburg, 30 bgs. Wilson, Sons, & Co., Ld.
Phosphate—
Bona, 500 t.
Ghent, 101
Plumbago—
Cologne, 18 cks. Hutchinson & Son
Potash—
Dunkirk, 6 cks. Wilson Sons, & Co., Ltd.
Pumice Stone—
Leghorn, 91 pks. Wilson, Sons, & Co., Ltd.
Messina, 10 bgs. "
Saltpetre—
Cologne, 1 ck.
Rotterdam, 135 bgs. Hutchinson & Son
Starch—
Antwerp, 88 cs. Bailey & Leetham
Rotterdam, 10 Hutchinson & Son
Bremen, 1,792 Veltmann & Co.
Amsterdam, 10 W. & C. L Ringrose
Stearine—
Antwerp, 114 pks Wilson, Sons, & Co., Ld.
Talc—
Bordeaux, 50 bgs. Rawson & Robinson
Tar—
Rotterdam, 36 cks. W. & C. L. Ringrose
Dunkirk, 4 cs. Wilson, Sons, & Co, Ld.
Tartar—
Rotterdam, 4 cks. W. & C. L. Ringrose
Tartaric Acid—
Rotterdam, 14 cks. 2 cs. Hutchinson & Son

Ultramarine—
Bremen, 18 cks.
Waste Salt—
Hamburg, 508 bgs. Wilson, Sons, & Co., Ld.
" 90 qty. Bailey & Leetham
White Lead—
Cologne, 87 cks.
Antwerp, 42 Bailey & Leetham
Wood Pulp—
Hango, 180 bls. J. Good & Sons
" 170 Furley & Co.
Zinc Oxide—
Stettin, 1 ck. Wilson, Sons, & Co., Ld.

GLASGOW.

Week ending April 26th.

Acetone—
Hamburg, 1 ck
Albumen—
Hamburg, 4 cs. 2 cks.
Aniline Colours—
Hamburg, 2 cs. 24 cks.
Arachide Oil—
Rotterdam, 1 ck. J. Rankine & Son
Barium Sulphate—
Antwerp, 32 cks. 400 bgs.
Barytes—
Rotterdam, 41 pkgs.
Castor Oil—
Antwerp, 71 cks.
Chemicals *(otherwise unclass.)—*
Hamburg, 6 cs. 2 cks.
Colours—
Hamburg, 39 cks. 8 cs.
Rotterdam, 2 10 J. Rankine & Son
" 25 pkgs.
Dyestuffs—
Alizarine
Rotterdam, 22 cks. 33 pkgs.
Argols
Bordeaux, 39 bgs.
Extracts
Rouen, 3 cks.
Antwerp, 2
Farina—
Hamburg, 420 bgs.
Delfszyhl, 250
Lead Acetate—
Hamburg, 24 cks.
Oxalic Acid—
Rotterdam, 14 cks. J. Rankine & Son
Painters' Colours—
Antwerp, 9 cks.
Pyrites—
Huelva, 3,203 t. Tharsis Co.
Saltpetre—
Hamburg, 5 kgs.
Soap—
New York, 9 brls
Starch—
Antwerp, 120 cs.
Tartar—
Bordeaux, 33 cks.
Tartar Emetic—
Hamburg, 4 cks.
Ultramarine—
Rotterdam, 4 cks, J. Rankine & Son
Varnish—
Rotterdam, 1 brl. J. Rankine & Son
New York, 10 6 cs.
Waste Salt—
Hamburg, 1,807 bgs.
White Lead—
Antwerp, 14 cks.
Rotterdam, 19 cs. J. Rankine & Son
Wood Pulp—
Christiania, 2,729 bls.
Zinc Oxide—
New York, 100 brls.
Antwerp, 25 cks.
Rotterdam, 15 J. Rankine & Son

TYNE.

Week ending April 21st.

Aluminium—
Antwerp, 1 cs. Tyne S. S. Co.
Antimony Ore—
Nantes, 610 sks.
Arsenic—
Hamburg, 10 cks. Tyne S. S. Co.
Barytes—
Rotterdam, 60 cks. Tyne S. S. Co.
Carbolic Acid—
Copenhagen, 4 dms.
Colours—
Rotterdam, 82 dms. Tyne S. S. Co
Antwerp, 1 ck. "
Extracts—
Antwerp, 26 cs. Tyne S. S. Co.
Limestone—
Antwerp, 2 crts. Tyne S. S. Co.
Phosphate—
Burriana, 390 t. Langdale's Chemical M. Co.
" 10 Blaydon's Chemical Co
Rosin—
Savannah, 4,489 brls.
Saltpetre—
Hamburg, 6 cks. Tyne S. S. Co.
Tartaric Acid—
Rotterdam, 4 cks. Tyne S. S. Co.
Ultramarine—
Hamburg, 15 cks. Tyne S. S. Co.
Wood Pulp—
Christiania, 50 bls.
Zinc Oxide—
Rotterdam, 25 cks. Tyne S. S. Co.
Antwerp, 30 brls. "

GOOLE.

Week ending April 18th.

Alkali—
Calais, 14 cks.
Antimony—
Boulogne, 2 cks.
Caoutchouc—
Boulogne, 13 cks.
Dyestuffs—
Alizarine
Rotterdam, 30 pkgs.
Fustic
Maracaibo, 300 t.
Indigo
Rotterdam, 11 chts.
Logwood
Jamaica, 915 t.
M. Christi, 550
Dyestuffs *(otherwise undescribed)*
Boulogne, 41 cks. 13 cs.
Ghent, 6 1 155 bgs.
Maracaibo, 85 t.
Farina—
Hamburg, 1,600 bgs.
Delfszyhl, 2,553
Glucose—
Dunkirk, 200 bgs.
Potash—
Dunkirk, 3 cks. 30 dms.
Rotterdam, 10
Pyrites—
Huelva, 738 t.
Saltpetre—
Rotterdam, 200 bgs.
Waste Salt—
Hamburg, 1,202 cks.

GRIMSBY.

Week ending April 21st.

Caoutchouc—
Rotterdam, 1 cs.
Chemicals *(otherwise undescribed)*
Hamburg, 17 cs.
Dyestuffs *(otherwise undescribed)*
Dieppe, 13 cks.
Farina—
Hamburg, 400 bgs.
Kainit—
Hamburg, 200 bgs.
Zinc Ashes—
Antwerp, 4 cks. 34 cs.

EXPORTS OF CHEMICAL PRODUCTS
OF
THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending April 25th.

Acids—
Montreal, 15 c. £15
Alkali—
Champion Bay, 2 t. 2 c. £6
Auckland, 1 8
Oporto, 5 7 30
Ammonia (Liquid)—
Madras, 5 cs. £43
Bombay, 5 14
Cologne, 10 cyldrs. 31
Ammonia (Liquid) and Acids—
Barcelona, 5 pkgs. £21
Ammonium Carbonate—
Melbourne, 20 cs. 5 c. £48
Paris, 1 t. 1 35
Algoa Bay, 12 pkgs. 32
Rosario, 14 30
Sydney, 8 cs. 11
Ammonium Chloride—
Sydney, 1 t. 1 c. £42
Rosario, 15 29
Gothenburg, 1 1 40
Libau, 2 cks. 17
Batoum, 1 36
Ammonium Hydrochlorate—
Melbourne, 6 c. £10
Ammonium Sulphate—
Mauritius, 100 t. 14 c. £1,448
S. Lucia, 20 3 287
Ghent, 39 520
Ostend, 6 80
Amsterdam, 100 1,400
Arsenic—
Melbourne, 3 t. 20 kgs. £61
Natal, 10 dms. 8
Yokohama, 1 10 23
Wellington, 1 16
Sydney, 1 16
Kurrachee, 4 cks. 10
New York, 112 brls. 284
Barium Nitrate—
New York, 65 pkgs. £81
Barium Sulphate—
Leghorn, 30 cks. £104
Venice, 8 32
Bleaching Powder—
Melbourne, 3 t. £38
Boracic Acid—
Melbourne, 4 t. 7 cks. £206
Sydney, 10 c. 20
Borax—
Sydney, 20 kgs. £28
Canterbury, 5 c. 7
Carbolic Acid—
Hamburg, 1 t. 2 c. £15
Rotterdam, 9 13 192
Dusseldorf, 80 cks. 511
Hiogo, 50 114
Caustic Potash—
Melbourne, 2 t. 3 c. £45
Caustic Soda—
Philadelphia, 14 t. 10 c. £138
Hong Kong, 9 6
Natal, 13 19
Lyttelton, 2 3 22
Christchurch, 14 10 141
Sydney, 2 7 25
Melbourne, 13 23
Chemicals *(otherwise undescribed)*
Calcutta, 2 cks. £18
Adelaide, 124 dms 6 cs. 124
Sydney, 30 11 c. 75
Bombay, 20 114
Auckland, 11 kgs. 40
Cape Town, 2 1 12
Kobe, 1 9
Fremantle, 2 2 19
Citric Acid—
Hamburg, 7 c. 22 kgs. £214
Genoa, 10 80
Algoa Bay, 2 17
Natal, 2 1 cs. 24
Dunedin, 1 10
Calcutta, 1 10
Antwerp, 1 t. 4 cks 281
Reval, 3 10 c. 500
St. Petersburg, 2 10 373
Rotterdam, 5 36
Cape Town, 2 15
Cologne, 5 38
Seville, 5 38
Barcelona, 2 kgs. 15
Shanghai, 1 cs. 9
Coal Products—
Alizarine
Lisbon, 2 cks. £40
Melbourne, 3 pkgs. 21
Aniline
Boulogne, 2 cks. 1 cs. £124
Cadiz, 3 48
Aniline Dyes
New York, 33 cks. £210
Aniline Salts
New York, 2 cks. £45
Anthracene
Dusseldorf, 53 cks. £363
Benzol
Calais, 42 cks. £286
Boulogne, 50 22 pns. 346
Creosote
Calais, 22 cks. £40
Creosote Salts
Philadelphia, 1,079 bgs. £146
Naphtha
Hamburg, 18 dms. £150
Naphthaline
Treport, 151 pkgs. £127
Dunkirk, 1 ck. 8
Hamburg, 61 92
Pitch
Paris, 5 brls. £3
Alexandria, 150 50
New York, 500 bgs 1,000 cks. 510
Cette, 1,078 t. 1,970
Dieppe, 158 38
Helsingfors, 100 156
Malmo, 20 32
Dunkirk, 5,117 1,814
Copenhagen, 34 130
Pyridine Bases
Amsterdam, 2 dms. £67
Tar
Moscow, 19 cs. £600
Boston, 4 pkgs. 67
Algoa Bay, 5 tks. 18
Helsingfors, 850 brls. 900
Philadelphia, 100 30
Malmo, 50 rns. 23
Tar Oil
Odessa, 10 dms. £10
Boulogne, 60 rns. 66
Toluol
Boulogne, 12 cks. £103
Copperas—
Constantinople, 7 t. 17 c. £20
Copper Sulphate—
Ancona, 28 t. 13 c. £417
Bari, 11 160
Treport, 10 3 150
Genoa, 37 7 540
Leghorn, 5 11 60
Cream of Tartar—
Sydney, 2 t. 4 c. £245
New Plymouth, 4 34
Rockhampton, 7 83
Newcastle, 10 40
Melbourne, 2 147
Algoa Bay, 2 cs. 12
Kobe, 1 10 104

stants—
o, 14 c. £27
le, 10 pkgs. 15
rne, 10 10
, 85 4 cs. 136
own, 3 60 dms. 44
a, 1 t. 5 c. 12
rg, 50 cks. 250
Bay, 25 brls. 8
15 t. 9 c. 54 pkgs. 236
ma, 80 dms. 17
1 t. 3 c. 5 cks. 35

s of Sulphur—
, 5 t. £45
—
d, 19 t 18 c. £224

osphite of Lime—
ork, 12 cs. £186

—
ius, 38 t. £1,140
t, 19 19 c. 120
140 600
ique, 128 2 465
5 30
la, 1 9
, 102 916
cia, 70 280
burg, 328 5 939

Acid—
rne, 2 t 3 c. 5 cks. £91
, 1 7 46
, 1 4 41

loric Acid—
rne, 1 c. £6
ara, 5 t. 62

lorus—
, 10 cs. £100
hee, 2 cks. 12

Crystals—
, 2 c. £23
1 cs. 6
ndon, 4 45

Salts—
nd, 16 t. 5 c. £2 330

ium Bicarbonate—
urne 5 c. £8
in, 5 15

ium Bichromate—
urne, 17 c. 8 kgs. £85

ium Chlorate—
urne, 10 c. £33
res, 10 35
y, 10 32
Town, 7 23
York, 10 t. 16 550

ium Cyanide—
hai, 5 cks. £25
urne, 1 c. 10

ium Permanganate—
urne, 5 c. £15
Town, 2 6

tre—
o, 7 t 15 c. £160
urne, 1 22
3 70
e Janeiro, 10 10 245
land, 1 10 32
ndon, 15 17

Dip—
chee, 60 dms. £35

Crystals—
y, 25 t. £55
Kong, 2 5 c. 11
antinople, 13 15 50

m Bicarbonate—
ourne, 20 t. £100
rara, 16 c. 6
as, 1 10 10
land, 1 6
rne, 1 6
Bay, 2 13

m Chloride—
enburg, 7 cks. £50

m Silicate—
ourne, 15 t. 8 c. £73

m Tartrate—
ourne, 10 c. £26

tium Nitrate—
York, 100 kgs. £130

ur—
itius, 500 cs. £221
m, 200 brls. 143
l, 3 t. 18

uric Acid—
l, 2 t 15 c. 20 cs. £24
ag, 1 5 13
apore, 1 5 12 dms. 31

phosphate—
itius, 250 t. £1,405
ucia, 25 250

Tartaric Acid—
Auckland, 7 c. £39
Newcastle, 10 55
Melbourne, 2 t. 10 238
Sydney, 20 kgs. 5 145
Madras, 3 cs. 11
Lisbon, 10 47
Natal, 1 6
Oporto, 10 53

LIVERPOOL.

Week ending April 25th.

Alkali Waste—
Antwerp, 10 t. 17 c. £30

Albumen—
Hamburg, 11 c. 2 q. £20

Alum—
Bahia, 8 c. 1 q. £22
Bombay, 13 t. 11 72
Mersyne, 1 6 7
Genoa, 1 17 9
Vigo, 1 7 2 7
B. Ayres, 11 10 62
Smyrna, 18 17 100
Ibrail, 1 5 9
Bari, 4 28
Talcahuano, 1 7
Montreal, 25 17 1 166
Boston, 5 19 1 29
Valparaiso, 2 5 12
Polo, 4 3 22

Alum Cake—
Calcutta, 57 t. 5 c. 2 q. £161

Ammonium Carbonate—
Fremantle, 3 c. £7
Montreal, 2 t 3 3 q 73
Barcelona, 10 18

Ammonium Chloride—
Trieste, 1 t. £34
Alexandretta, 4 c. 7
Syra, 10 18
Alexandria, 1 1 39
Ibrail. 1 ck. 11
Constantinople, 1 3 37
Kurrachee, 1 1 36
Montreal, 5 2 q. 7
Barcelona, 1 36

Ammonium Sulphate—
Leghorn, 42 t. 19 c. £601
Valencia, 392 5 2 q. 5,387
Barcelona, 82 2 1,075
Malaga, 154 17 2 2,157
New York, 51 1 688
Baltimore, 49 11 667
Boston, 50 11 679
Quebec, 11 1 54
Alicante, 1 14

Antimony—
Shanghai, 1 ck.

Arsenic—
Rotterdam, 12 c. £15

Asbestos—
Mauritius, 1 cs.

Barium Chlorate—
Oporto, 2 c. £7

Barytes—
Malta, 100 cks.

Bleaching Powder—
Ancona, 24 cks. 50 brls.
Baltimore, 252
Boston, 831
Montreal, 17
Newport News, 178
New York, 262 50 bxs.
Rio de Janeiro, 8
Rouen, 14
Vera Cruz, 69 55
Callao, 6 cs.
Dunkirk, 36
Genoa, 169
Malaga, 10
Naples, 19 c.
Odessa, 18
San Sebastian, 58

Boracic Acid—
Antwerp, 11 c. £15

Borax—
Rosario, 10 c. £13
Stettin, 1 t. 2 q. 36
Hamburg, 4 5 128
Canada, 1 1 32
Valparaiso, 2 5 62

Calcined Magnesia—
Lisbon, 24 lbs. £30
Havana, 1 c. 1 q. 161

Calcium Chloride—
Havre, 5 t. £11
Odessa, 10 2 c. 23
New York, 23 58

Camphor—
Lagos, 1 cs.

Carbolic Acid—
Rotterdam, 5 t. 19 c. £227
M. Video 1 3 q. 9
New York, 5 2 2 218
Genoa, 7 3 26
Barcelona, 4 3 20
Milan, 1 19 1 18
Odessa, 4 10 79
Hamburg, 13 6 716
Vera Cruz, 4 16
Philadelphia, 7 2 22

Carbon Bisulphide—
Maranham, 5 c. £10

Castor Oil—
Barranquilla, 11 cs.
Rangoon, 1
Sherbro, 4

Caustic Potash—
Montreal, 8 t. 17 c. £93
New York, 11 1 238
Pt. Elizabeth, 1 18 45
Napies, N.Z., 8 9

Caustic Soda—
Algoa Bay, 60 dms.
Amsterdam, 200
Ancona, 85
Antwerp, 15
Baltimore, 760
Barcelona, 366 32 brls.
Bari, 177
Boston, 250
Ceara. 10
Chicago, 104
Corral, 10
Fiume, 60
Galatz, 211
Genoa, 210
Ibrail, 35
Jaffa, 133
Leghorn, 100
Marseilles, 123
Melbourne, 127 10 pkgs.
M. Video, 50
Newport News, 390
New York, 720 100 100 bxs.
Odessa, 200
Oporto, 28
Puerto Cabello, 13
St. Petersburg, 750
San Francisco, 100
Shanghai, 39
Singapore, 30 3
Sourabaya, 20
Sydney, 126
Trieste, 60
Tunis, 15
Venice, 100
Vera Cruz, 72
Yokohama, 50
Bilbao, 60
Bombay, 38
Brantford. 35
Cartagena, N.G., 20
Catania, 10
Copenhagen, 20
Corunna, 5
Hamburg, 1,735
Hiogo, 200
Montreal, 200
Naples, 273
N. Orleans, 50
Pasages, 12
San Sebastian, 40
Talcahuano, 50
Valparaiso, 126

Chemicals (*otherwise undescribed*)
Calcutta, 3 t. £100
New York, 9 15 c. 335
Genoa, 1 6 3 q. 31
Leghorn, 1 37
Lisbon, 1 1 36
Smyrna, 1 3 3 40
Hong Kong, 6 2 9
Montreal, 1 35

China Clay—
Boston, 520 t. 10 c.
Naples, 20
New York, 9 5
Odessa, 1
Lisbon, 40 10
Rio de Janeiro, 13
St. John's, N.B., 30 bgs.

Chromate—
Rouen, 5 t 1 c. £161

Citric Acid—
Montreal, 1 t. £150
Piræus, 2 16

Coal Products—
Alizarine
Tampico, 6 cks.

Aniline Colours
New York, 5 kgs.
Calcutta, 2 cs.
Salonica, 4
Shanghai, 10
Aniline Oil
St. Louis, 8 dms.
Fiume, 9
Naples, 2
Aniline Salts
New York, 64 cs.
Anthracene
Rotterdam, 150 brls.
Naphtha
Calcutta, 20 dms.
Naphthol Colours
New York, 10 cks. 1 cs.
Pitch
Genoa, 1,143 t
Ibrail, 20 brls.
Tar
Mussera, 6 brls.
Philadelphia 53 t.
Sierra Leone, 20 15 qr.-brls.
Stettin, 20
Galatz, 10
Ibrail, 10

Cobalt Oxide—
Gijon, 3 q. £32

Copperas—
Las Palmas, 5 t. 7 c. £12
Calcutta, 13 19 2 q 25
Rio Grande, 1 10 2 4
Montreal, 17 10 43

Copper Sulphate—
Nantes, 26 t. 12 c. £401
Bahia, 4 1 q. 5
Venice, 57 13 2 888
Genoa, 236 10 3 3,620
Boston, 4 18 1 71
Oporto, 45 677
Naples, 55 6 2 918
Bordeaux, 223 7 3,175
Leghorn, 27 8 2 421
Lisbon, 15 7 1 229
Pachuca, 15 220
Messina, 3 14 1 56
Palermo, 6 8 1 95
Marseilles, 156 12 3 2,50.
Bari, 3 4 3 4.
Ancona, 15 1 2 232
Trieste, 10 1 155
Fiume, 16 3 3 245
Gothenburg, 5 2 3 74
Rouen, 9 19 15.
Vera Cruz, 9 2 9

Cream of Tartar—
Carthagena, 5 c. 1 q. £35

Disinfectants—
New York, 1 t. 19 c. £20
Bombay, 7 10 100

Dried Blood—
Rouen, 15 t. £119

French Chalk—
Rio de Janeiro, 2 cks.

Iron Sulphate—
Caldera, 13 t. 10 c. £58

Lead Acetate—
Montreal, 2 t. 5 c. £75

Lime—
Lagos, 3 t. 12 c.

Magnesia—
La Guayra, 1 cs.
Manila, 2
Maracaibo, 1
Puerto Cabello, 1

Magnesium Carbonate—
Monterey, 9 c. £11

Magnesium Chloride—
Rio de Janeiro, 1 t. 11 c. 2 q. £6

Manganese—
Naples, 1 ck.

Manganese Ore—
E London, 5 t. 16 c.

Metallic Sodium—
Rotterdam, t. 14 c £992

Mineral White—
Vera Cruz, 15 cks.

Oxalic Acid—
E. London, 10 c. £13

Paint—
Cadiz, 40 dms.
Calcutta, 360 kgs. 2 cks.
Colon, 4
Hong Kong, 20
Kingston, Jam, 150
Lanzarote, 80

Matanzas, 2 brls.
Para, 26
Pernambuco, 3
Pt. Natal, 7 cs.
Rangoon, 2 643
Smyrna, 15
Tamatave. 80
Gd. Bassam, 54
Havana, 1
M. Christi, 4 4
Moulmein, 53
Sierra Leone, 6
Smyrna, 12

Painters' Colours—
Antwerp, 51 cks.
Axim, 1
Bermuda, 1 22 kgs.
Bilbao, 88 dms. 16
Bonny, 1 17 cs
Gothenburg, 115 bgs.
Guelph, Ont., 7 cks. 1 1 brl
Hamilton, Ont., 1 3 6 brls.
Janina, 2 tcs. 2
Lisbon, 19
London, Ont., 2 17 146 1
Malmo, 4
Montreal 138 39 103 247 dms.
Para, 37 1 196 61 brls.
Paris, Ont., 2 1 6
St. Mary, Ont., 4 5
St. Thomas, 6 3 5 pkgs.
St. Domingo, 14 tcs.
Stratford, 2 11 17 brls.
Sulina, 1
Toronto, 26 60
Venice, 20 dms.
Waterloo, 1 1
Yokohama, 12 brls.
Accra 30
Amsterdam, 12
Arthur, Ont., 2 2
Bahia, 7 1
Baltimore, 63 30
Berlin, Ont., 1 1 10
Canea, 3
Constantinople, 1,120
Galt, 1 11 15
Havana 2
Hong Kong, 6 dms.
Madagascar, 70
Mayaquez 3 brls
Meaford, 5 1
Owensound, Ont., 2 dms. 1 4
Pernambuco, 5 cks.
Rio de Janeiro, 1 1
,, 345
Rotterdam, 100 bgs.
Woodstock, Ont., 4 69

Paraffin Wax—
Bordeaux, 10 cs.

Phosphorus—
Progresso, 7 cs. £80
Vera Cruz, 1 t. 15 c. 2 q. 222
Shanghai, 30 cs. 300
Hiogo, 17 183
Kobe, 38 430

Plumbago—
Piræus, 1 ck.

Potassium Bichromate—
Syra, 10 c. £20
Rio de Janeiro, 17 36

Potassium Chlorate—
Hiogo, 25 t. £1,567
New York, 17 15 c. 1,057
Trieste, 2 6
Copenhagen, 3 5 154
Montreal, 14 43
Amsterdam, 6 17
Riga, 1 15 103
Pt. Elizabeth, 1 56
Shanghai, 4 260
St. Petersburg, 24 5 1,402
Naples, 3 10 207
Barranquilla, 3 13
Sydney, 10 608
Hamburg, 2 5 134
Boston, 3 4 213
Philadelphia, 2 10 163
Oporto, 2 1 117

Potassium Silicate—
Amsterdam, 1 t. 4 c. 2 q. £6

Potassium Stannate—
Bombay, 1 t. 5 c. 2 q. £12

Salt—
Accra, 13 t. 1 c.
Anamaboe, 11
Bakana, 53 10
Boston, 20
Buguma, 50
C. C. Castle, 102 5
De Gama, 50
New York, 148
Portland, O., 1,007
Quebec, 10
Rangoon, 2,085
Valparaiso, 2 2
Winnebah, 8
Yokohama, 2 2
Abonnema, 20 1
Akassa, 400
Antwerp, 360
Bonny, 20
Calcutta, 5,626
Callao, 3
Cameroons, 16 5
Charlotte Town, 25
Dixcove, 25
Gr. Bassam, 8
Halifax, 100
Hamburg, 110
Montreal, 207 2
Noqui, 7 2
Rotterdam, 200
Savannah, 300

Salt Cake—
Antwerp, 141 t. 5 c. £141
Ghent, 239 19 340
Baltimore, 211 18 311
Philadelphia, 210 17 418

Saltpetre—
Rio de Janeiro, 2 t. 19 c. 2 q. £71
Pernambuco, 16 15 2 397
Bahia, 1 1 23
Callao, 2 47
Para, 3 71

Sheep Dip—
Cape Town, 1 t. 13 c. 1 q. £50
Adelaide, 10 1 20
Punta Arenas, 5 cks. 30

Soap—
Alexandria, 89 cs.
Algoa Bay, 3,100 bxs.
Banda, 3,000
Belize, 250
Benin, 150
Brussels, 1,400
Calcutta, 1 500 bdls.
Genoa, 100
Gibraltar, 200
Greytown, 150
Havre, 360
Kingston, Jam ,500 50
Las Palmas, 220
Livingstone, 20
Para, 1
Pt. Natal, 121
Rangoon, 1,012 5
Shanghai, 2,500
Smyrna, 15
Surinam, 50
Teneriffe, 565
Vera Cruz, 1
Volo, 10
Warri, 250
Zurich, 120
Accra, 90
Antofagasta, 10
Axim, 25
Barbadoes, 700
Barranquilla, 8
Bluefields, 750
Bombay, 210 5
Bonny, 150
Cape Town, 1,067 106
Carthagena, N.G., 3
Casablanca, 10
Christiania, 35
Colon, 500
Constantinople, 301 11
E. London, 1,150
Guayaquil, 200
Lagos, 20
La Guayra, 1
Liege Meuse, 400
Manila, 1
Matadi. 20
Mossel Bay, 882
N. Orleans, 350
New York, 50
Old Calabar, 1,120
St. Gall, 120
St. Lucia, 280 brls.
San Fernando, 200
Singapore, 200 10

Soda Alkali—
Barcelona, 70 brls.
Canterbury, 10
Dunedin, 40
Leghorn, 40
Melbourne, 19
Messina, 20
Odessa, 100
Quebec, 50
Smyrna, 40
Sydney, 54

Soda Ash—
Amsterdam, 200 bgs.
Ancona, 15 cks.
Antwerp, 1,031 7
Baltimore, 2,799 387 216 kgs.
Boston, 1,080 89 211 tcs.
Calcutta, 100
Callao, 10 27 5 brls.
Chicago, 480
Fiume, 80
Genoa, 130 41
Hiogo, 50
Kobe, 109
Melbourne, 169 21
Montreal, 530 16 62 36 tcs.
New York, 3,681 417
Philadelphia, 2,514 121 229
Rio Janeiro, 200 200
Rio Grande, 50
Rosario, 300
Salonica, 95 150
Saltello, 12
Smyrna, 250
Varna, 100
Venice, 50
Yokohama, 160 100
B. Ayres, 350
Christiania, 25
Copenhagen, 110
Ghent, 2
Leghorn, 100
M. Video, 25
Piræus, 220
Riga, 16
Stockholm, 11
Syra, 20

Soda Crystals—
Gibraltar, 50 cks.
Hamilton, Ont., 50 kgs.
Malta, 50 50 brls.
Montreal, 70 504 30
New York. 280 56
Philadelphia, 2,000bgs. 140sks. 167
Quebec, 20 kgs.
St. Catherine, 25
Sourabaya, 200
Toronto, 76brls. 355 50 cks.
Valparaiso, 200 129 bgs.
Boston, 280
Halifax, 15
London, Ont., 80 kgs.
Palermo, 34
Rosario, 50
Windsor, Ont., 25

Sodium Biborate—
Hamburg, 40 cks.
Montreal, 28 brls.
Rotterdam, 2

Sodium Bicarbonate—
Amsterdam, 27 kgs.
Ancona, 125 14 cks.
Bari, 50
Bilbao, 50
Galatz, 30
Gutuyenski, 100
Hamilton, Ont., 20
Melbourne, 826 50 bgs.
Montreal, 1,080 245
Odessa, 350
Oporto, 25
Rotterdam, 39
Rouen, 32 23
St. Petersburg, 1,890
Santos, 20
Smyrna, 20
Tampico, 10
Toronto, 600
Yokohama, 1,000
Alexandria, 60 brls.
Boston, 50 cks.
Christiania, 50 2
Copenhagen, 42 3
Fairwater, 100
Genoa, 57
Leghorn, 80
Marseilles, 115 3
Nantes, 34
Naples, 40
N. Orleans, 20
Rosario, 20
Trieste, 50

Sodium Bichromate—
Ancona, 1 ck.
Bari, 1

Sodium Chlorate—
Hamburg, 50 brls. 40 kgs.
Lisbon, 2
Ghent, 10
Gutujeffsku, 50
New York, 60 cks.

Sodium Naphthionate—
Havana, 3 cks.

Sodium Prussiate—
Naples, 3 cks.

Sodium Silicate—
Cadiz, 6 cks.
Lisbon, 10
Montreal, 150
Oporto, 27
Salonica, 10 brls.
Seville, 230
Sydney, 10
Wellington, 10

Stearine—
Hamburg, 45 cks.
San Sebastian, 4 brls.

Sulphur—
Puerto Cabello, 10 c.
Para, 2 t. 1
Cape Town, 18 5
Vera Cruz, 10
Philadelphia, 90 3
Boston, 200 8

Sulphuric Acid—
Rio Janeiro, 7 c.
Mossel Bay, 5
M. Video, 1 t. 10

Superphosphate—
Barcelona. 20 t.
Las Palmas, 4
Valencia, 105 1

Tin Crystals—
Vera Cruz, 5 c.

Turpentine—
Lagos, 15 dms.
Rio Grande do Sul, 10 cs.
Vera Cruz, 1 kg.
Calcutta, 184 dms.
Moulmein, 10
Rangoon, 240
Carthagena, N.G., 20

Varnish—
Pt. Natal, 2 cs.
Valparaiso, 5
Hiogo, 1 ck.
Montreal, 8 4

White Lead—
Valparaiso, 25 kgs.

Zinc Chloride—
Rio Janerio, 1 t.
Oporto, 5 11 c.
Bombay, 6 19

Zinc Oxide—
Para, 4 c.

Zinc White—
Vera Cruz, 8 cks.

MANCHEST

Week ending April 26

Aniline Oil—
Hamburg, 10 dms.

Dyestuffs *(otherwise unde*
Mersyne, 1 cs.

Painters' Colours—
Antwerp, 1 cs.

Paraffin Wax—
Hamburg, 10 cs.

Pitch—
Antwerp, 392 t.

Tallow—
Hamburg, 4 cks.
Rotterdam, 15

Tar Oil—
Antwerp, 2 dms.
Hamburg, 15

Tar Salts—
Rotterdam, 5 cks.

HULL.

Week ending April 2

Ammonium Sulphate—
Amsterdam, 500 bgs.
Hamburg, 160

Bleaching Powder—
Stettin, 39 cks.
Trieste, 168

Borax—
Dusseldorf, 8 cks.
Rotterdam, 8
Stettin, 2

Carbolic Acid—
Rotterdam, 24 cks.

Caustic Soda—
Abo, 16 cks
Bari, 30 dms.
Danzig, 35
Konigsberg, 32
Riga, 30
Rafso, 35 1 cs.
Trieste, 41

Chemicals *(otherwise unde*
Amsterdam, 12 pkgs.
Antwerp, 5 cks.
Bordeaux, 2
Alexandria, 12
Bremen, 8

iania, 16 171 slbs.
ne, 60
hagen, 23 15 pks.
g, 17 230
nburg, 66 200 12
urg, 20 75
ngen, 20
o. 10
sberg, 11
a. 47
rdam, 4 3
, 26 6
46
6
holm, 1
n, 269 kgs. 40 190 pks. 100 bgs.
e, 31 90

seed Oil—
erp, 200 c.
en, 220
ne, 540
ldorf, 100
erg, 18
urg, 1,442
sberg, 255
rdam, 1,289
holm, 302
, 300
e, 601
ngen, 590

te—
, 950 brls.

uffs (*otherwise undescribed*)
erp, 1 ck.
urg, 1 cs.
, 5
rdam, 34
50
1
, 8 376 bls.

—
irk, 50 t.

d Oil—
51 c.
erp, 2
aux, 35
n, 7
iania, 911
hagen, 35
irk, 35
heim, 216
nburg, 99
urg, 307
, 71
rdam, 34
nger, 21
e, 185
e, 11

al White—
erp, 100 bls.

ha—
erp, 10 cks.

—
irk, 7 cks.
sberg, 10
rdam, 2

ers' Colours—
und, 64 dms.
erp, 16 cs. 60 cks. 4 pkgs.
aux, 3
n, 120
en, 1
tiania, 112 1 180
ne, 6
tiansand, 26 kgs.
hagen, 20
heim, 260 1 7
ing, 1
nburg, 1
t, 7
burg, 3 56 1 pkge.
York, 276
a, 221
rdam, 6 24
40
n, 3 14
nger, 15
holm, 2
n, 29
e, 4 14

horus—
2 cs.

—
erp, 514 t.
irk, 86
ldorf, 5 cks.
York, 160 bgs.
a, 200

—
2 cks.

iania, 100 t.
g, 237
n, 305

Soap—
Copenhagen, 1 cs.
Reval, 1 ck.
Stockholm, 1

Tallow—
Rotterdam, 50 cks.
Stockholm, 5

Tar—
Antwerp, 2 cks.
Christiansund, 5
Copenhagen, 6
Hamburg, 28
Odessa, 200
Rafso, 3
Stettin, 4 cs.

Varnish—
Amsterdam, 7 cks 3 cs.
Antwerp, 4 3
Copenhagen, 2
Danzig, 5 2
Dunkirk, 1
Gothenburg, 1
Hamburg, 2 4 bls.
Hango, 5
Rotterdam, 5 1
Stockholm, 1

Whiting—
New York, 36 cks.

Zinc Chlorate—
Harlingen, 20 cks.

GLASGOW.

Week ending April 26th.

Ammonium Sulphate—
W. Indies, 56 t. 18 c. £512
Trinidad, 111 16¼ 976

Boracic Acid—
Japan, 15 c. £28

Borax—
Japan, 17¾ c. £26

Castor Oil—
Cape Colony, 1 t. 2½ c. £26. 10s.

Caustic Soda—
Chili, 7 t. 13 c. £70

Chloroform—
Japan, £8

Chloride of Lime—
New York, 7 t. 3 c. £58

Coal Products—
Benzol
Hamburg, 13 dms. £68
Naphtha Oil
Copenhagen, 150 brls.
Pitch
Gothenburg, 98 t. 1½ c. £150
Antwerp, 130 136
New York, 95 12¾ 143
Oporto, 248 13¼ 363
Tar
Calcutta, £105
St. John's, N'fd., 60 brls. 60 hf-brls. 22
Danzig, 1,595 £797. 10s.
Tar Oil
Hamburg, 100 cks. £42
Danzig, 100 brls. 58

Coal Tar Products (*otherwise undescribed*)—
Rotterdam, 30 pns. £225

Dyestuffs—
Cutch
St. John's, N'fd, 1 t. 6 c. £29
Logwood
Oporto, 12 t. 9 c. £101

Dyestuffs (*otherwise undescribed*)
Oporto, 1 t. 15¾ c. £30

Farina—
Antwerp, 2 t. 10 c. £30

Iodine—
Rotterdam, 2 cks. £600

Linseed Oil—
Singapore, 2 t. 17¾ c. £77
St. John's, N'fd., 23 cks. 87

Litharge—
Bombay, 4 t. 17 c. £61

Magnesium Sulphate—
Bombay, 1 t. £70

Manganese Oxide—
New York, 9 t. 19 c. £95

Manure—
W. Indies, 30 t. 13½ c. £256
New York, 2 21
Trinidad, 10 38

Paint—
Calcutta, 23 t. £23
New York, 9 12 c. 175

Painters' Colours—
W. Indies, 2 t. 13 c. £32
Calcutta, 28 5½ 430
Singapore, 9 8 124

Paraffin Scale—
Amsterdam, 14 t. £216

Paraffin Wax—
Bombay, 2 t. 9 c. £80
Japan, 1 13½ 29
Bilbao, 9 14 215

Potash Salts—
New York, 5 t. 16½ c. £637

Potassium Prussiate—
Japan, 5 t. 11¾ c. £211

Potassium Bichromate—
Rouen, 12 t. 14¾ c. £496
Antwerp, 4 13¾ 185
Havre, 7 9¾ 288
Danzig, 31 cks. 262

Slag—
Amsterdam, 526 t. £253

Soap—
Calcutta, 2 t. £27. 15s.
Chili, £21
St. John's, N'fd., 1 t. 15 c. 28

Soda—
St John's, N'fd., 1 t. £3

Soda Ash—
New York, 15 t. 1 c. £56

Sodium Bichromate—
Rouen, 3 t. 3¾ c. £100
Havre, 2 11½ 80

Sodium Nitrate—
New York, 11 t. 10¾ c. £120

Stannic Chloride—
W. Indies, 8½ c. £26

Stannous Chloride—
W. Indies, 3¾ c. £25

Sulphuric Acid—
Cape Colony, 3 t. 18½ c. £28. 15s.
Madras, 8 ½ £100

Tallow—
Bergen, 3 c. £4
Rotterdam, 4 t. 2 150

White Lead—
Cape Colony, 1 t. 11¾ c. £30
Shanghai, 5 4¾ 89

Whiting—
St. John's, N'fd., 17 c. £1

TYNE.

Week ending April 21st.

Alkali—
Antwerp, 14 t. 16 c.
Hamburg, 22 5
Rotterdam, 6 7
Gothenburg, 4 19
Amsterdam, 43 3

Alumina Sulphate—
New York, 16 t. 8 c.

Antimony—
Hamburg, 4 t.
New York, 30

Arsenic—
Gothenburg, 1 t. 6 c.
New York, 5 3

Barium Binoxide—
Dunkirk, 15 t. 6 c.

Barium Sulphide—
Dunkirk, 5 c.

Bleaching Powder—
Antwerp, 19 t. 1 c.
Abo, 10
Helsingfors, 68
Hamburg, 40 2
Konigsberg, 15 4
Gothenburg, 40 5
Drontheim, 10
New York, 150 13
Copenhagen, 3
Rotterdam, 10 14
Ancona, 9 3
Odessa, 11 13
Amsterdam, 78 1

Calcined Magnesia—
New York, 4 c.

Caustic Soda—
Antwerp, 23 t. 3 c.
Abo, 19 2
Helsingfors, 30 3
Wyburg, 2 14
Hamburg, 1
Christiania, 2 18
Konigsberg, 11 12
Gothenburg, 4 11
New York, 87 1
Copenhagen, 5 7
Ancona, 15 12
Odessa, 10 2

Colour—
Hamburg, 15 c.

Copperas—
Alexandria, 26 t. 3 c.

Litharge—
Hamburg, 18 c.
Copenhagen, 1 t. 5
Lisbon, 1 8

Magnesia—
Antwerp, 1 c.
Hamburg, 5
Rotterdam, 10
Odessa, 1 t.

Magnesium Carbonate—
New York, 1 t. 2 c.

Manure—
Christiania, 85 t 13 c.

Paint—
Antwerp, 1 t.
Hamburg, 3 c.
Arendal, 3
Christiania, 4
Bergen, 12
New York, 4
Rotterdam, ½

Rosin—
Sebastopol, 10 t. 9 c.

Rosin Oil—
Hamburg, 9 t. 2 c.

Slag—
Rotterdam, 299 t.

Soda—
Antwerp, 1 t. 10 c.
Abo, 5 14
Helsingfors, 14 10
Christiania, 29 1
Aarhuus, 5 7
Rotterdam, 35 6
Gothenburg, 5 2
Ancona, 2 7
Amsterdam, 25

Soda Ash—
Hango, 6 t. 9 c.
Christiania, 5 8
Konigsberg, 25 7
Huelva, 2 2
Aarhuus, 15
Gothenburg, 70 15
Rotterdam, 1 6
Ancona, 9 14

Sodium Sulphate—
Moss, 359 t. 15 c.
Gothenburg, 3 2
Porsgrund, 250
Rotterdam, 9 19

Sulphur—
Antwerp, 5 t.

White Lead—
Helsingfors, 1 t. 5 c.
Copenhagen, 2 9
Pomaron, 12

GOOLE.

Week ending April 18th.

Alkali—
Dunkirk, 30 dms.

Chemicals (*otherwise undescribed*)
Boulogne, 2 cks. 1 cs.
Ghent, 1
Rotterdam, 102

Coal Products (*otherwise undes.*)
Antwerp, 100 cks.
Boulogne, 1 1 cs.
Boulogne, 2 1 4 pkgs.
Hamburg, 3

Dyestuffs (*otherwise undescribed*)
Rotterdam, 10 cks.

Manure—
Antwerp, 125 bgs.
Boulogne, 388
Hamburg, 100

Pitch—
Antwerp, 466 t.

GRIMSBY.

Week ending April 21st.

Chemicals (*otherwise undescribed*)
Antwerp, 1 ck. 5 kgs.
Hamburg, 20 botls.

Coal Products (*otherwise undes.*)—
Dieppe, 60 cks. 20 brls.

Dyestuffs (*otherwise undescribed*)
Dieppe, 1 cs.

Pitch—
Antwerp, 80 t.

PRICES CURRENT.

WEDNESDAY, May 2nd, 1894.

Prepared by Messrs. Higginbottom and Co., 116, Portland Street, Manchester.

The values stated are f.o.r. at maker's works, or at usual ports of shipment in U.K. The price in different localities may vary.

	£	s.	d.
Acids:—			
Acetic, 25 % and 40 % .. .. per cwt.	6 9 & 10 9		
,, Glacial .. .. ,,		50/-	
Arsenic S.G., 2000° .. .. ,,	0	14	6
Fluoric .. .. per lb.	0	0	3¼
Muriatic (Tower Salts), 30° Tw. .. .. .. per bottle	0	0	10
,, (Cylinder), 30° Tw. .. .. ,,	0	3	0
Nitric 80° Tw. .. .. per lb.	0	0	1¾
Nitrous .. .. ,,	0	0	1¾
Oxalic .. .. nett ,,	0	0	3¾
Phosphoric, 1750° .. .. ,,	0	1	0
Picric .. .. ,,	0	1	0
Sulphuric (fuming 50 %) .. .. per ton	15	10	0
,, (monohydrate) .. .. ,,	5	10	0
,, (Pyrites, 168°) .. .. ,,	3	0	0
,, ,, 150° .. .. ,,	1	5	0
,, (free from arsenic, 145°) .. .. .. ,,	1	6	0
Sulphurous (solution) S.G. 1025 .. .. .. ,,	3	0	0
Tannic (pure) .. .. per lb.	0	1	1
Tartaric .. .. ,,	0	0	11
Arsenic, white powdered .. .. nett per ton	14	5	0
Alum (loose lump) .. .. ,,	5	2	6
Alumina Sulphate (pure) .. .. ,,	5	0	0
Aluminoferric .. .. ,,	2	7	6
Aluminium .. .. per lb.	0	3	0
Ammonia, Anhydrous .. .. ,,	0	1	3
,, ·880=28° B .. .. per lb.	0	0	3
,, =24° B .. .. ,,	0	0	2¼
,, Carbonate .. .. nett ,,	0	0	3¾
,, Muriate .. .. per ton	25	0	0
,, ,, (sal-ammoniac) 1st & 2nd .. per cwt.	39/- & 37/-		
,, Nitrate .. .. per ton	44	0	0
,, Phosphate .. .. per lb.	0	0	10½
,, Sulphate (grey) London .. .. .. per ton	12	17	6
,, ,, (grey) Hull .. .. ,,	12	18	9
Aniline Oil (pure) .. .. per lb.	0	0	5½
Aniline Salt ,, ... ,,	0	0	5¼
Antimony .. .. per ton	45	10	0
,, (tartar emetic) .. .. per lb.	0	0	10
,, (golden sulphide) .. .. ,,	0	0	10
Barium Chloride .. .. per ton	6	10	0
,, Carbonate (native) .. .. ,,	3	10	0
,, Sulphate (native levigated) .. .. .. ,,	45/- to 75/-		
Bleaching Powder, 35 % .. .. nett ,,	7	10	0
,, Liquor, 7 % .. .. ,,	3	10	0
Bisulphide of Carbon .. .. ,,	11	15	0
Chromium Acetate (crystal) .. .. per lb.	0	0	6
Calcium Chloride .. .. per ton	2	5	0
China Clay (at Runcorn) in bulk .. .. .. ,,	17/6 to 30/-		
Coal Tar Products and Dyes:—			
Alizarine (artificial) 20 % .. .. .. net per lb.	0	0	8
Magenta .. .. ,,	0	3	9
Anthracene, 30 % A, f.o.b. London .. per unit per cwt.	0	1	1
Benzol, 90 % nominal .. .. .. per gallon	0	1	1½
,, 50/90 ,, ... ,,	0	1	4
Carbolic Acid (crystallised 40°) .. .. .. per lb.	0	0	6¼
,, (crude 60°) .. .. per gallon	0	1	7
Creosote (ordinary) .. .. ,,	0	0	1½
,, (filtered for Lucigen light) .. .. ,,	0	0	2½
Crude Naphtha 30 % @ 120° C. .. .. .. ,,	0	0	6
Grease Oils, 22° Tw. .. .. per ton	2	5	0
Pitch, f.o.b. Liverpool or Garston .. .. .. ,,	1	7	6
Solvent Naphtha, 90 % at 160° .. .. .. per gallon	0	1	2
Lucigen" and "Wells Oils .. .. ,,	0	0	2½
Copper .. .. per ton	39	7	6
,, Sulphate .. .. ,,	15	10	0
,, Oxide (copper scales) .. .. ,,	40	0	0
Glycerine (crude) .. .. ,,	15	10	0
,, (distilled S.G. 1250°) .. .. ,,	44	0	0
Iodine .. .. nett, per oz.	0	0	9
Iron Sulphate (copperas) .. .. per ton	1	5	0
,, Sulphide (antimony slag) .. .. ,,	2	0	0
Lead (sheet) for cash .. .. ,,	10	5	0
,, Litharge Flake (ex ship) .. .. ,,	13	0	0
,, Acetate (white ,,) .. .. ,,	25	15	0
,, ,, brown ,,) .. .. ,,	16	10	0
,, Carbonate (white lead) pure .. .. .. ,,	20	0	0
,, Nitrate .. .. ,,	20	0	0
Lime, Acetate (brown) .. .. per ton	6	0	0
,, ,, (grey) .. .. ,,	10	5	0
Magnesium (ribbon and wire) .. .. per oz.	0	2	3
,, Chloride (ex ship) .. .. per ton	2	10	0
,, Carbonate .. .. per cwt.	1	17	6
,, Hydrate .. .. per ton.	17	0	0
,, Sulphate (Epsom Salts) .. .. .. per ton	3	0	0
Manganese, Sulphate .. .. ,,	17	15	0
,, Borate .. .. per cwt.	2	12	6
,, Ore, 70 % .. .. per ton	4	5	0
Methylated Spirit, 61° O.P. .. .. per gallon	0	2	2
Naphtha (Wood), Solvent .. .. ,,	0	3	9
,, ,, Miscible, 60° O.P .. .. .. ,,	0	4	6
Oils:—			
Cotton-seed .. .. per ton	21	15	0
Linseed .. .. ,,	21	10	0
Petroleum, Russian .. .. per gallon	0	0	3¼
,, American .. .. ,,	0	0	5½
Phosphorus (yellow) .. .. per lb.	0	2	2
,, (red) .. .. ,,	0	2	9
Potassium (metal) .. .. per oz.	0	3	7
,, Bichromate .. .. nett per lb.	0	0	4½
,, Carbonate, 90% (ex ship) .. .. .. per ton	16	15	0
,, Chlorate .. .. per lb.	0	0	7¼
,, Cyanide, 98% .. .. ,,	0	2	0
,, Hydrate (Caustic Potash) 80/85 % .. per ton	21	15	0
,, ,, (Caustic Potash) 75/80 % .. ,,	20	0	0
,, ,, (Caustic Potash) 70/75 % .. ,,	19	10	0
,, Nitrate (refined) .. .. per cwt.	1	2	6
,, Permanganate .. .. per cwt.	3	2	6
,, Prussiate Yellow .. .. per lb.	0	0	10½
,, Sulphate, 90 % (ex ship) .. .. .. per ton	9	15	0
,, Muriate, 80 % (do.) .. .. .. ,,	8	7	6
Silver (metal) .. .. per oz.	0	2	5¼
,, Nitrate .. .. ,,	0	2	10
Sodium (metal) .. .. per lb.	0	3	4
,, Carb. (refined Soda-ash) 48 % .. nett per ton (F.O.B.)	4	17	6
,, ,, (Caustic Soda-ash) 48 % .. ,, ,, (F.O.B.)	4	2	6
,, ,, (Carb. Soda-ash) 48% .. .. ,, ,, (F.O.B.)	4	0	0
,, ,, (Alkali) 58 %) .. .. .. ,, ,, (F.O.B.)	3	15	0
,, ,, (Soda Crystals) .. .. .. ,, ,, (F.O.B.)	2	15	0
,, Acetate (ex-ship) .. .. ,,	14	15	0
,, Arseniate, 45 % .. .. ,,	11	0	0
,, Chlorate .. .. per lb.	0	0	8¼
,, Borate (Borax) .. .. net, per ton.	23	0	0
,, Bichromate .. .. ,, per lb.	0	0	3½
,, Hydrate (77 % Caustic Soda) (f.o.b.) net pr. ton (10 ton lots)	10	7	6
,, ,, (74 % Caustic Soda) ,, ,, ,, (10 ton lots)	10	0	0
,, ,, (70 % Caustic Soda) ,, ,, ,, (10 ton lots)	9	0	0
,, ,, (60 % Caustic Soda) .. ,, ,, (10 ton lots)	8	2	6
,, ,, (60 % Caustic Soda, cream) (f.o.b.) ,, (10 ton lots)	7	17	6
,, Bicarbonate .. .. ,,	6	12	6
,, Hyposulphite .. .. ,,	5	12	6
,, Manganate, 30% .. .. ,,	16	0	0
,, Nitrate (95 %) ex-ship Liverpool .. .. per cwt.	0	10	3
,, Nitrite, 98 % .. .. per ton	29	10	0
,, Phosphate .. .. ,,	15	0	0
,, Silicate (glass) .. .. per ton	5	7	6
,, ,, (liquid, 100° Tw.) .. .. .. ,,	4	5	0
,, Stannate, 40 % .. .. per cwt.	3	0	0
,, Sulphate (Salt-cake) .. .. per ton.	0	17	6
,, ,, (Glauber's Salts) .. .. ,,	1	5	0
,, Sulphide .. .. ,,	8	10	0
,, Sulphite .. .. ,,	5	15	0
Strontium Hydrate, 100% .. .. ,,	8	10	0
Sulphocyanide Ammonium, 95 % .. .. per lb.	0	0	7¾
,, Barium, 95 % .. .. ,,	0	0	5
,, Potassium .. .. ,,	0	0	7½
Sulphur (Flowers) .. .. per ton.	7	12	6
,, (Roll Brimstone) .. .. ,,	5	15	0
,, Brimstone: Best Quality .. .. .. ,,	3	17	6
Superphosphate of Lime (26%) .. .. ,,	2	7	6
Tallow .. .. ,,	28	0	0
Tin Crystals .. .. per lb.	0	0	6¾
Zinc (Spelter) .. .. per ton	15	15	0
,, Chloride (solution, 96° Tw.) .. .. .. ,,	5	10	0

THE

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AND

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WALTER A. SAPEY,
Secretary and Manager.

...ks, Tamworth.
... 10th, 1894.

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CURRENT TOPICS.

QUID LEGES SINE MORIBUS.

FROM all the things said before the passing of the Fertilizers and Feeding Stuffs Act, there appeared to be great need of some such measure. Though the passing of the Act was hardly likely to suddenly annihilate all bad manures or feeding stuffs, it seems rather strange that flagrant cases of adulteration should still occur. In some measure this is not the fault of the Act, but we shall come to this point later on.

As it is the adulterations which have been discovered by the Royal Agricultural Society during the past three months, only tend to show how badly some kind of protection for the purchaser was needed. At the same time such a protection must tell in favour of the respectable manufacturer, and indirectly do him good by removing, in time, agencies of unfair competition. Seven pounds a ton for a manure containing only 20 per cent. of sulphate of lime as its active principle, 67 per cent. of insoluble silicates, and a little organic matter and moisture, must be an exceedingly lucrative price for the manufacturer; but the results it is likely to produce from an agricultural point of view, are only calculated to bring into discredit all cheap, but otherwise useful and genuine manures. Naturally, a manure having a composition such as the foregoing, is manufactured according to a recipe which is a profound secret, though the reasons for maintaining so much secrecy are varied and obvious.

Feeding stuffs of but little better quality than the above manure are evidently being pretty freely purchased even now. The addition of foreign seeds and weeds is not desirable, but in a measure it is less reprehensible than the addition of substances which are either harmful or absolutely devoid of nutritive properties. When eight pounds ten shillings a ton is paid for a feeding cake, the purchaser is hardly desirous of paying that price for about 7 per cent. of sand. If its presence is favourable to digestion, and so is added on the same principle that a large percentage of fat is removed from condensed milk, the user, it would be thought, was quite capable of adding as much sand as he wished; it being a somewhat simpler operation than extracting fat from milk. It may, however, be argued by the manufacturer that the consumer would not take the trouble to do this, and his cake may suffer in reputation by being too rich. An excuse like this can scarcely be held worthy to rank as such, but the assumption of the purchaser's callousness would not be entirely without foundation.

Users have in their own hands the means for checking these forms of adulteration. Yet until they bestir themselves, and make use of the means of protection afforded them, instead of perpetuating the dawdling indifference which has laid them open to all kinds of fraud, all the Acts of Parliament which ever have, or shall be passed, will not prevent

adulteration. Insistence upon invoiced and guaranteed articles may call for additional trouble and sustained effort, but it will bring the privilege of repayment if good value is not obtainable. Sellers, no doubt, are quite alive to this fact, but buyers have apparently barely realised it yet. When they do, it will not only be to their own advantage, but also to the advantage of the manure and cake trades.

THE PROGRESS OF RIVER PURIFICATION.

Some time ago when speaking of the prospective work of the Mersey and Irwell Joint Committee, we expressed the hope that manufacturers would be dealt with in a sensible and just manner; and ventured at the same time to vouch for the good behaviour and co-operation of the manufacturers if such an attitude were taken up.

A review of the progress made by manufacturers with their purification works during the past six months, shows pretty clearly that we were not far out in our estimate of the manufacturers of the district. During the last half year the number of efficient purification works in operation have been increased by over 100 per cent. Now the manufacturer is blamed for being the cause of all the woe in connection with river pollution. Such being the case a glance at the progress made by the local authorities who turn their sewage more or less untreated into the same rivers, may not be useless, and the comparison might be a pretty one. As the result we find that there has only been an increase of something over 30 per cent., in the works put into operation by local authorities, and at the same time there is nothing said about their efficiency. In regard to the number of works being constructed the manufacturers are more behind hand.

At first sight again manufactures seem at fault by having a number of cases where no treatment has been adopted, whereas now every local authority has a scheme. But a goodly number of these schemes are either only under consideration or have merely been submitted to the Local Government Board for approval. This position as far as the rivers are concerned is little or no better than having no treatment whatever, so that manufacturers on this score come out a few per cent. better than local authorities.

If people are anxious, therefore, to speedily improve the state of the rivers, they will compass their end far more rapidly and effectually by prodding on the local authorities through their representatives, than by endeavouring to wreak vengeance on individual manufacturing pollutors. For these well-meaning would-be reformers, must not forget that they are one and all pollutors and being many in number the amount of their aggregate pollution is by no means trifling. Consequently if they allow their representatives to dilly-dally with the treatment of their sewage, while manufacturers quietly progress with the purification of their effluents, they may in course of time find the tables turned, and their strictures recoiling upon their own heads.

PLANTS NOT INJURIOUS IN BEDROOMS.—The well-known property of plants of giving off CO_2 in the dark and absorbing CO_2 and giving off oxygen in the light has led to the presence of plants in sleeping apartments being popularly deemed undesirable. The experiments of a chemist in a London conservatory tend to prove such a supposition fallacious. In a conservatory containing 6,000 plants in the middle of the day oxygen had so far increased on the carbon dioxide that out of 10,000 parts only 1·40 proved to be CO_2, whereas the normal proportion of the purest air is about four parts in 10,000. After being shut up twelve hours the air in the greenhouse at noon thus proved to be surcharged with oxygen. The same air was analysed just before sunrise, and the carbon dioxide had so far gained on the oxygen that the proportion of it was almost exactly four per 10,000. Taking the four-and-twenty hours round therefore the day just about balances the night.

Reports of Companies.

THE BROXBURN OIL CO., LIMITED.

The books of this company (subject to audit), after paying on borrowed money and providing for maintenance of works current charges, show, for the year ending 4th April, a gross £25,564. 6s. The directors will recommend to the shareho the annual general meeting to be held on Wednesday next, 16t that the same be disposed of in the following manner:—For d tion on capital expenditure, being at the rate of 5 per cent. entire capital expenditure as at last balance, £14,329. 11s 1 payment of a dividend at the rate of 6 per cent. per annum preference shares of the Company, £6,000; to the credit renewal account, £4,000; leaving a balance to be carried for £1,234. 14s. 2d. The profits of the past year are £13,856. double those for the year ending March 1893. For that year dividend was paid on the ordinary shares, while the 6 per ce ference shareholders were paid from the reserve fund. Out profit of £12,708 4s. 2d., £12,268. was written off for depr For the year 1891-2 the profit was over £46,000., and ordinar holders got 10 per cent. (£19,975), and £17,108. was written depreciation. For seven years in succession this Company de dividend of 25 per cent. each year, thus returning to the shar who paid par value for their shares nearly two-fold the amou The £10 shares of the Company, on which £8. 10s. has bee have stood as high as £31; but with the last few years' de profits from the keen cutting of American and Russian prices, t of the shares fell very severely. On the previous year's blank announcement the shares fell to £7. 15s., and in July they £6. 15s. They recovered to £9. by November, fell to £8. in De slowly recovered to £8 17s. 6d. in April, but thence receded to Later they stood at £8. 15s., but they receded to £ their par value, after this announcement was made. This recovery of 15s. on the year.

THE OAKBANK OIL COMPANY.

The directors of this company will state in their report to th holders at the Ninth Annual General Meeting, which is to be Wednesday next, at 200, Buchanan-street, Glasgow, that the at the credit of Profit and Loss, including the sum of £940. brought forward from last year, is £2,250. 15s. 1d., wh directors recommend to be carried forward. They have also o Reserve Fund with a view to ultimately renewing the retorts, ar placed £569. 2s. 4d. to the credit of this fund. The sum of which stood last year as an asset under the Patent Rights Accou been liquidated.

The oils in process and in stock have been valued at the prices. The increase in the total amount, as compared with la is due to largely increased quantities in process in departme have been extended. During the first half of the year a cons reduction in the cost of manufacture was effected, but that sav been more than counterbalanced by the enhanced price that h paid for fuel since the month of October. The works also ha partially shut down for a time in consequence of the difficulty the coalminers' strike of securing adequate supplies of fuel a stock at the works had beome exhausted. The loss incurre these causes is estimated at fully £3,000. There has been no change in the value of the company's products since last report, directors continue in the belief that no further depreciation in th will take place. It is with satisfaction that they note the g demand for oil for gas enriching purposes, the more so that the has long been difficult of sale and low in value. No large incr the price of that oil is looked for, but any increase may be suffi make up for any falling off in the value of other oils, which p will take place through the growing and keener competition offered by the American and Russian producers.

DIVIDEND.

THE KELLNER-PARTINGTON WOOD PULP CO., LIMITED.

The directors of this company have declared an *interim* divid the rate of 6 per cent. per annum for the half-year ended Ma which was payable, free of income-tax, on the 7th May, 1894.

UTILIZING GLASSGRINDERS' WASTE.—According to a p process, bricks can be made from the waste produced from gr glass, which consists of sand, glass, and oxide of iron. This w made into bricks, fired, glazed, and enamelled in the usual barytes, sulphate of lime, alkali waste, and other materials bein as fluxes.

THE "ROW" HEATING TUBE.

conomy which can be effected by the use of heaters has led to eat number of devices being made for accomplishing the heat- er with waste steam. Most of such contrivances are made up it arrangements of tubes, or coils of tubing, arranged in vari- , according to the use to which the apparatus is to be put. od which has been employed for obtaining greater efficiency class of heater is to corrugate the tubes. The chief draw- ich a method is that a greater quantity of metal is required to tubes. Necessarily these tubes must be made of a metal good conductor of heat, the best of metals for which pur- pper. This metal, however, is for manufacturing purposes ensive, and consequently the employment of corrugated tubes ing greater efficiency adds materially to the cost of the

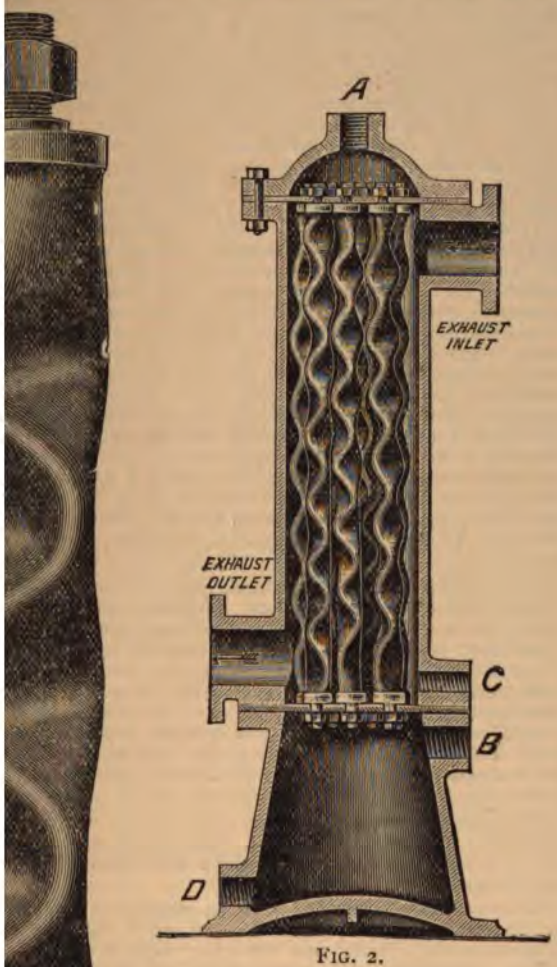

FIG. 2.

G. 1.

ct of the Row Tube is to get much greater efficiency out of medium without greatly increasing the cost of manufacture, he experiments which have been made with the tube, it ems to have fairly succeeded with its task.

e itself is made of copper, fitted with a nipple, as shown in is formed by taking a circular tube and indenting and flat- a regular manner, the indentations preferably intersecting at right angles, as illustrated, so that a liquid passing tube is thoroughly broken up and diverted into contact ge amount of impinging surface. Whatever may be the hich it is explained, most exhaustive tests have demonstrated flattened or indented in this manner has a heating power about at as the same amount of plain tube surface. Consequently of considerable utility for the construction of heating and paratus, and evaporators; also heating soap-kettles and ratus by steam.

Its application to feed-water heaters is shown in Fig. 2, and in connection with the manufacture of such heaters this tube possesses certain advantages which are worth noting. Owing to the longitudinal rigidity of the tube being destroyed by the indenting process, the tube becomes elastic, so that when fixed between the tube plates neither leakage nor fracture of the tube are likely to occur through expansion and contraction. A rather better idea of the efficiency of this tube, which we recently saw in the course of manufacture at the works of Mr. J. J. Royle, Great Bridgewater-street, Manchester, can be gathered from the following figures, which represent the average of four tests made without back pressure:—

TUBE.	Temperature of Inlet Water.	Temperature of Outlet Water.	Temperature of Steam.	Quantity of Water Heated.	Time.
200 square inches of Plain Copper Tube, 1½ inches bore, 1/16 inch thick.	58° F.	180° F.	212° F.	1 Gallon.	2 min. 55 sec.
200 square inches of "Row" Tube, formed from 1¼in. Copper Tube, 1½ inches bore, 1/16 inch thick,	58° F.	180° F.	212° F.	1 Gallon.	1 min. 30 sec.

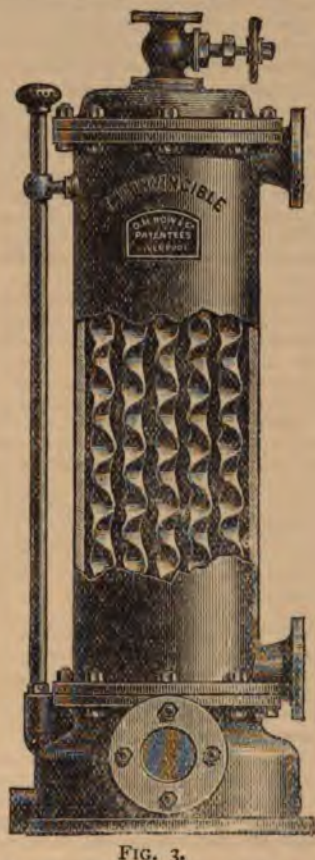

FIG. 3.

Another convenient application of this tube is illustrated in Fig. 3, which represents a fresh-water condenser. These condensers have been applied to several vessels for condensing fresh water, using sea water to cool the condenser. It consists of a series of Row's patent heating sections, thoroughly tinned on the steam and fresh-water surfaces. The steam enters the sections through the top valve, and is condensed by the rapid action of the cooling water which enters at the bottom side inlet, and passes away at the top. The steam is condensed and thoroughly cooled as it falls into the box The water is drawn off through an efficient filter arranged in the box. This condenser is made in sizes capable of yielding from 500 up to 10,000 gallons of water per24 hours.

NEW INSECTICIDAL MIXTURE.—A new mixture for fungicidal and insecticidal purposes is prepared by preparing copper sulphate in the usual way and adding to the hot solution prior to crystallising out a repellant of the nature of oil of *Eucalyptus Globulus*, and well agitating the mixture. The crystallisation of the copper sulphate is then proceeded with as usual.

THE MERSEY AND IRWELL JOINT COMMITTEE.

THE usual monthly meeting of this Committee was held last Monday at the Offices Mosley-street, Manchester, Mr. Killick presiding. The Chief Inspector (Mr. R. A. Tatton), reported upon the position of the various Authorities whose extensions of time had expired. Out of 392 manufactories he reported that 92 had efficient works in operation, 130 had inefficient works, 127 were constructing works, and 43 had adopted no treatment at all.

The recommendations of the

CONSULTING SUB-COMMITTEE

were, after slight modification, adopted, resulting in 6 Authorities being granted extension of time for 3 months. One month was allowed to Marple. In 4 other cases the Clerk was instructed to write to the Authorities and inform them that their effluents were not satisfactory, and that steps must be taken to improve them.

THE SLUDGING NUISANCE.

The Chief Inspector having reported serious cases of sludging, the Committee authorised the Clerk (Mr. Hulton) to take proceedings against seven firms, and further passed a resolution empowering the Clerk in the future to take immediate proceedings against persons offending in this manner when they were reported.

In two other cases the Sub-committee recommended that proceedings should be taken, viz:—the Bolton Corporation and the Salford Corporation. A deputation from Bolton waited upon the Committee and explained their position. They were prepared to put their works in order, and were arranging for land for filtration purposes. The deputation expressed suprise and displeasure that their effluents should show such bad results upon analysis. The Chairman reminded the deputation that it was left for the Committee to discover how bad they were, and they had been told twelve months ago that the effluent was not satisfactory. After some discussion Dr. Hewitt moved an amendment to the effect that the case should be adjourned for two months on the understanding that the best means for improving the effluent from the existing works should be adopted and the filtration scheme proceeded with.

In regard to Salford, it was stated that since the last meeting six samples had been taken, but none of them could be said to be satisfactory. In the course of his remarks upon these effluents, Sir H. Roscoe read the following—"At the last meeting of the Joint Committee, held on April 2nd, a report was presented by me on eighteen samples of sewage effluents, two of which came from Salford and were of a very noxious character, and the analytical results placed them at the bottom of the list which you will find in the printed proceedings of the Committee. Alderman Walmsley is reported in the daily Press as having taken objection to the results and challenged their authenticity, and further stated that he was not at all satisfied with the way in which a good many of the proceedings were carried on. I wish, first, to make a few remarks on the strictures which have been published in the Press by Mr. Carter Bell, the analyst to the borough of Salford. In a letter to the newspapers of April 3rd, 1894, Mr. Bell impugned the accuracy of the above analyses of the Salford effluent, and made statements which will not bear chemical criticism. Mr. Carter Bell, whilst finding fault with my analyses, violates in his own words 'the very rudiments of analytical chemistry,' for he makes the statement that 'every tyro in the science is aware that the application of the acid permanganate test to a water containing salts of iron is utterly fallacious.' He knows perfectly well that it is only when the iron is in the ferrous state that this objection applies; he also knows that the salts of iron which were employed for some time previous to the date of his letter, and on the dates when the samples were collected, were not ferrous but ferric salts. These facts are sufficient to condemn the line of argument which Mr. Bell has thought fit to take. As a matter of fact, I did ascertain before applying the oxygen test whether or not ferrous iron was present, and in every case I found none. Mr. Bell further stated that 'the amount of oxygen absorbed from an acid solution of potassium permanganate in the case of the clear chalybeate stream which runs through Buxton would be much greater than the amount absorbed under like conditions by the Salford effluent. This statement is incorrect, for, as Mr. Bell knows, the amount of iron in the ferrous state which must be present in the chalybeate water of Buxton in order to give the same results as the Salford effluent would be 33 grains of ferrous oxide per gallon; whereas a sample of the Buxton stream collected by the Deputy Clerk a few days ago was found to absorb less than one-tenth grain of oxygen from an acid solution of potassium permanganate per gallon. In order to show the fallacy of Mr. Bell's arguments, I will suppose that the Salford effluent contained 11 grains of ferrous oxide per gallon—a plainly absurd amount. The quantity of oxygen required to peroxidise the iron is 1·2 grain, and this deducted from the Salford effluent figure, viz., 3·02, would still leave the Salford effluent at the bottom of the list. It is interesting to find that, whilst Mr. Bell objects to the acid permanganate test for the Salford effluent in this particular case, he has invariably made it himself in his printed reports to the Salford Corporation second letter (April 10), Mr. Bell endeavours to substant opinion by a reference to a report on the Barry process exper upon by the Corporation of Salford in the year 1891. discussing the conclusions arrived at in that report, I may p that I fail to see how a reference to a process tried and conde 1891 can affect the examination of the effluent in 1894, w process was not in use, but a totally different one was em But, whilst challenging Mr. Bell's criticism as to the value permanganate test, I have always made it a point when action be taken by the Committee to have this test strengthened analytical data. No case has ever been brought by me be courts without a statement of a complete analytical character no case have the results obtained from such further analyti failed to support the results of the permanganate test.

"The question for the consideration of the Committee is, how plain to rest upon chemical subtleties. All the Salford effluents c in March and April, after standing for a comparatively short t found to be putrescent, noxious and polluting liquids, unfit to charged into any river. At the last meeting the opinion was e that my more frequent presence at the Committee meetings w rable. I can only say that I have always wished to be prese the Committee thought it necessary, and it will be my pleasure to attend whenever I am summoned. With regard to Mr. Scu think it only right to say that he has during the last twelve spent 186 working days in the service of the Joint Committee, has attended ten legal cases, all of which have been gained. visited 77 works, analysed 150 samples, and presented 122 re the Joint Committee. It is no more than my duty to express m faction to the Committee that we have in Mr. Scudder a relia energetic chemist. With regard to the position of manufact cannot refrain from stating that the satisfactory results, as show tables prepared by Mr. Tatton, could not have been arrived at not been that the demand of the Joint Committee had been conciliatory and even generous spirit by the manufacturers, wh rule have at once adopted any suggestions I have been able t The work of the next twelve months will not only include t tinuation of that which we are engaged upon, but also the car amination of the results of the processes adopted by the variou on the stream, and I am glad to be able to report that so far as now judge considerable improvement has already been effected effluents. I hope in a future report to enter into full details matter."

Ald. Walmsley said no one welcomed more sincerely than he Henry's presence at the Committee. He wished they had the of his presence oftener. He disclaimed any responsibility Carter Bell's letters, which he did not know of until they ap He repeated that on the occasion in question there was no st before them that any other analysis would be made. There statement that the analysis was founded on any other analysis t permanganate test. In a city like Manchester they were by no bereft of chemical experts, and a number of these chemists ob had endorsed what he said on the evidence they had before them last meeting. Sir Henry was trying to get out of the difficulty.

Sir Henry objected to the statement that he was trying to get a difficulty. No steps were taken by him to recommend action part of this committee unless there was a full statement bearing test in question.

Alderman Walmsley wished it to be understood that he c impute anything to Sir Henry. What he meant was that add information was presented now which they ought to have had pre before. The evidence before them at the last meeting respecti permanganate test was startling. If, as it appeared to him at t meeting, that that test was the only one which was applied they be dealing unfairly with many people. He asked whether Sir H assistant was responsible, or if Sir Henry was put forward as a head.

Sir Henry said he was responsible. The statements made Mr. Scudder carried out the analyses, and he (the speaker) them. He had perfect confidence in Mr. Scudder. What mo Mr. Walmsley want?

Alderman Walmsley said that was all he did want.

Sir Henry said the very signature showed who was responsibl

Alderman Walmsley said he only wanted to know whe responsibility rested. Referring to the Salford sewage, he pro to say that the Salford Corporation did not wish to shirk their They had been trying to find out how they could turn out effluent without that terrible bugbear of having to find land. had now adopted the principle of filtration after chemical pre tion. If the committee passed the resolution to prosecute, he per would welcome it, because then the Salford Corporation would to show the public how seriously they had addressed themselves

of sewage purification. He expressed his regret that Sir ıould have made this matter a personal one.
ewitt said he had not heard a word from Alderman Walmsley what was stated at the last meeting as to the character of the ffluent.
G. Groves urged that it was unnecessary and inopportune to e Salford at this juncture. The object of a prosecution was to n offender who was unwilling to do right, but the Salford tion were most anxious to do all they could for the purification ewage. They asked for time to show their good faith in the They had a mass of figures to convince the Local Govern- ard, if they were a sane body, that artificial filtration, which posed, could be effectual.
hairman pointed out that Salford did not undertake to get the filtration.
roves said they undertook to put an effectual scheme of filtra- re the L ocal Government Board. He then moved an amend- he effect that time be given to Salford, the Corporation ing to provide for efficient filtration, and to take steps in the e to improve their effluent. Ald. Noton seconded.
K. Armitage said the weak point in Mr. Groves' argument he would insist on treating the Local Government Board as a y. (Laughter.) He gave credit to Salford for what it had he past in the matter of sewage purification. But for some ford had been living on credit in this matter, and the creditors v demanding payment.
nendment was lost, and the resolution to take proceedings alford was adopted.
eport of the chemical sub-committee was then taken, and the recommendations approved and adopted. The report in- ecommendations for application to be made to the Local ent Board for permission to proceed against eight firms, commendations the Committee decided to act upon. The pro- then terminated.

Ship Canal & Chemical Trade.

NG the recent movements of various vessels the following have en of interest to the chemical trade on account of the cargoes The barque *Quelle* has left Runcorn with a cargo of salt. *amic*, of the Belfast Steamship Co., recently took on her out- rney nearly 80 tons of massive steel castings from the works of h Whitworth and Co., Limited, Openshaw. They are in- or the Atlantic liners Germanic and Teutonic, which, it is od, are about to have their engines and machinery overhauled ed at the shipbuilding yard of Messrs. Harland and Wolff,

arque *Otto* has brought a cargo of logwood, and the steamer has arrived laden with lubricating oil from Philadelphia. these cargoes have been brought *via* Liverpool, and this is of its kind that has found its way direct to Manchester. The Oil Co. have made arrangements for other steamers to

Parliamentary Jottings.

THE USE OF IMPORTED GERMAN SPIRITS.

House of Commons last week in answer to Mr. Field, the ncellor of the Exchequer said: I am informed that about gallons of German spirit were imported into Ireland last year, 1s. 6d. per gallon. This is not a large amount, when d with the 8,000,000 gallons made, or the 4,400,000 gallons d in that country. So long as the German spirit remains in ıe Customs regulations do not allow it to be mixed with pirits for home consumption. I have no official information disposal of the spirit after it is cleared for home consumption, derstand that a considerable portion is used for methylation. offered for sale under a false trade description, the general ıs of the Merchandise Marks Act would apply.

A FATAL EXPLOSION OF NITRO-GLYCERINE.

oodall said that he regretted to have to announce that an explosion ious character occurred on Monday last, at Waltham Abbey. he first serious accident that had occurred there in connection manufacture of explosives. It would appear that an explosion ıce where the waste nitro-glycerine was stored, and in some ead to the stores. The accident had had a fatal result, four ng killed and some 20 others injured. He could not say further at present, but of course the House might rely upon this rrence being made the subject of a most careful investigation.

Colonel Lockwood said that he asked a question a short time ago about an explosion of waste cordite, and he wished to know whether this explosion was of the same description.

Mr. Woodall replied that on the occasion referred to by the hon. and gallant member there were no injurious results to the persons employed. On that occasion the waste nitro-glycerine was purposely fired in order to destroy it, but on the present occasion there was no such intention, and it appeared to have been accidentally detonated.

Mr. Stuart-Wortley understood that this explosion had occurred in a Government Factory which was exempt from the Explosive Substances Act. He therefore hoped that any inquiry that might be held would be directed to the point of seeing whether the same precautions were taken in this factory as would be taken under the Act in any factory that was not under Government.

Mr. Campbell-Bannerman said that the attention of the War Office had been directed to that point by the previous explosion. There had been a full inquiry, in which Colonel Majendie took part, into the arrangements with regard to the gun factory itself and with regard to those mechanical appliances which were connected with the manufacture of nitro-glycerine.

Colonel Lockwood asked when they were to have papers on the subject.

Mr. Campbell-Bannerman replied that if the papers had not already been laid upon the table they would be so laid at once.

[From subsequent information it appears that the explosion originated in the factory devoted to the manufacture of cordite, while two men were engaged in washing nitro-glycerine, free from acid. A number of the minor cases of injury were caused by falling glass, which was scattered in all directions for 200 yards round, the roof of the factory in which the explosion occurred having been of glass.—ED. *C. T. J.*]

THE EIGHT-HOURS' MOVEMENT.

In the House of Commons, on Monday, Mr. Brunner asked the Home Secretary whether, in view of the decision of the House strictly to limit to eight hours per day the work underground of colliers, who worked on an average not more than five days a week, he would give the House the best estimate he could form of the number of men working an average of 12 hours a day, seven days a week, in the following trades—alkali works, other chemical works, bakeries, breweries, distilleries, blast furnaces, gas works, tinplate works, copper works, lead works, river steamers, and the carrying trade; and whether he proposed to include, or would consent to include, in the Factories and Workshops Bill a provision taking power to regulate the hours of labour in all trades involving continuous work, day and night, Sundays and weekdays.

Mr. Asquith: There do not exist materials on which to base a reliable estimate of the nature demanded in the case of industries within the province of my department. Nor are there, I am informed, materials in the case of industries under the control of the Board of Trade. A loose estimate would, in my opinion, be worse than useless. As to the second paragraph of my hon. friend's question, I must refer him to the Factory Bill. [This Bill has been issued during the week.]

SEPARATING SUBSTANCES FROM SOLVENTS.—An ingenous way of separating liquids and solids dissolved in alcohol, ether, etc., without evaporating the solvents consists in cooling to 20°—25°C, saturating with carbon dioxide under pressure, and passing through charcoal or cellulose filters, which absorb the dissolved matters. The conditions of pressure are kept the same when saturating and filtering. The saturator and filters may be cooled with liquid carbon dioxide, and the carbon dioxide is diverted into the filter when the saturator is emptied, so as to maintain the pressure.

TOO MUCH SCIENCE IN THE BEER.—A good tale is told of the late Professor Tyndall about the time he was a master at Queenwood College, Hants. The village innkeeper had a capital tap of home-brewed old-fashioned ale, which the educational staff much fancied. Years passed on, but the scent of the roses remained, and when the Professor ran over to look once more at his starting point in life, he went down for a glass of the well-remembered brew. "Simpkinson," said he, after a delicious draught, "I never had any beer like yours since I went away." "No, sir, now-a-days they puts too much science into beer, 'stead of malt and hops."

ACETATE OF CHROMIUM.—Messrs. Königswater and Ebell, of Linden, Hanover, are introducing this substance as a mordant for wool, silk, and cotton. This mordant is particularly suitable for dyeing cotton with alizarine. It will be found preferable to iron and alumina mordants, as it produces deeper and purer shades, while at the same time it does not require so much dyestuff, nor do the colours fade so much. It can be used in either a hot or cold dye bath. Some kinds of chromium acetate contain objectionable salts which bring up the gravity of solutions but do not do any good from the dyer's point of view. This firm claim that their product is free from such impurities, and is therefore bulk for bulk superior to other qualities.

THE ADULTERATION OF FOOD.

(*Concluded from page 275.*)

IN continuing to enumerate some of the rarer methods of adulterating foods and food stuffs, the next article to be dealt with is

Sugar.—The common idea that the grocer puts sand in his sugar is not borne out by the facts in America. It is doubtful whether a single pound of white sand has been put into the sugar supply of America in the last ten years. It is one of those popular fallacies which gain credence inversely proportional to their truth. The granulated and white lump sugars which are found in our markets are almost absolutely pure; as pure indeed as the utmost care in manufacture can make them. Occasionally a little flour or starch may find its way into the powdered sugar, but such instances must be exceedingly rare. Low-grade sugars contain molasses and water as a result of the way in which they are made and dried. In the refineries, after the pure white sugar has been secured, the molasses therefrom is reboiled and a second crop of sugar crystals obtained. These form the so-called coffee sugars of commerce. In a like manner a third crop of rather light coloured crystals may often be formed. By a combination of low temperature and high vacuum in boiling, and by a manipulation producing small crystals, a sugar can be made very soft, and, so prepared, it absorbs a good deal of the mother liquor in which its crystals grow. It is possible in this way, to put on the market a fairly light-coloured and attractive sugar, which may not contain more than eighty-five per cent. of pure sugar. This process of making low-grade sugars is practised chiefly with the product of the sugar cane. In sugar from beets the molasses and mother liquors are usually so highly charged with alkaline salts as to render the manufacture of low-grade sugars, fit for table use, a very difficult matter. In America, as is well known, the greater part of the sugar consumed is made from sugar cane. Of 4,000,000,000 pounds which we have eaten in the last twelve months, probably 3,500,000,000 have been grown under tropical suns. The proportion of yellow, coffee and low-grade sugars offered is therefore, greater in American markets than in Europe, where the sugar beet supplies nearly all of the sugar consumed.

Syrups.—In respect of molasses and syrups the bill of health is not quite so clean. The quantity of pure maple syrup sold annually is well calculated to make the maple forests of Vermont prick up their ears. A very little maple molasses maplelzes the whole jugful; a fact that makers and sellers have not been slow to learn. An extract of hickory bark imparts a misleading flavour to a syrup made from cane sugar and starch, and a patent has been granted by the United States protecting the discoverer of this process in the exercise of his invention. Judicious mixtures of glucose, sugar, syrup and maple flavour are the secrets of the marvellous expansiveness of maple molasses between the tree and the gullet.

"Golden drips," "honey syrups," etc, are names given to compounds made of refinery refuse, glucose and centrifugal cane molasses. The great base of all our table syrups is glucose made from corn starch. By no means would it be right to denounce glucose as a dangerous ingredient in such mixtures. On the contrary, when glucose is properly made it is both palatable and wholesome, but its sale as maple molasses or as refiner's syrup or as open kettle molasses is clearly fraudulent.

Coffee.—Almost equally subject to adulteration is ground coffee. The high price of coffee is a special incentive to sophistication. In former days it was largely the custom to buy the green berry, and each consumer would do his own roasting. Now it is fashionable not only to buy the roasted berry but also buy it in a ground state. Chicory, roasted peas, beans, etc., are often found in large proportions in such preparations, and in fact it is somewhat rare to find a pure ground coffee. It might be held that such sophistication would end with the ground article, but such is not the case. The berries themselves have been imitated both in the green and in the roasted state. The moistened mass of chicory, starch, pea meal, caramel, molasses, etc., is moulded into the proper shape, and, when dried, these imitations might easily escape detection when mixed with the genuine berries. Those who are so fortunately situated as to be permitted to live at home and regale themselves each morning with an aromatic cup of Mocha or Java, scarcely realise what it means to drink a lukewarm concoction of chicory and pea meal, bluish black in colour, but decidedly yellow in flavour.

Tea.—Thanks to the American Customs laws very little tea is found adulterated with foreign leaves The chief adulterations practised with tea are found in the use of spent leaves and in the practice of facing. The practice of facing consists in treating the leaves with some preparation designed either to increase their weight or to improve their appearance. Salts of iron and copper are often used for this purpose. Some of these facing materials are quite prejudicial to health, and such teas are best excluded from the breakfast table.

Cocoa.—Cocoa and chocolate are largely adulterated with starch and sugar, harmless in themselves, but far cheaper than the meat or the *cocoa theobroma.* The natural oil of the cocoa bean is als extracted, and its place supplied by a cheaper fat or left wit oil. These various preparations are offered under fancy nat with wonderful claims of excellence. But in general we r that the food value of a preparation is not much improved by it digested before it is eaten. Yet often we see it claimed for mixture that it has had all of its difficultly digested com removed, and that these are replaced by others with which the juice can have a veritable pic-nic. The digestible cocoas often to this class, and perchance, may have little of the virtues original beans left in them.

Canned Foods.—Of canned foods I should like to say someth it is difficult to select the little which can yet be said. First of material of which the cans are composed is a matter to deserv tion. It is undoubtedly true that glass is the ideal substance designed to preserve food products. But the first cost packages and the danger of breakage during filling and transp exclude them from competition with tin in all except the brands of preserved foods. Fortunately, tin is a metal is not only troublesome to the tariff but also resis most organic acids. It is acted on very slowly or all by most organic acids found in fruits, vegetable meats. In some countries, such as Germany, the tin which in contact with canned foods is required to be almost pure, contain not more than one or two per cent. of lead. The most a adulterant of tin, as found in tin cans, is lead, and it is aga presence of lead that it is especially necessary to guard, inas the organic salts of lead, without exception, are poisonous. In A the country of personal liberty, there is no restriction as to centage of lead which tins used for canned foods may conta high as twelve per cent. has been found in tin from cans whi contained food designed for consumption. Such a high perce this dangerous metal cannot fail to excite alarm. We have als numerous evidences of erosion on the tinned surfaces exposed action of the contents of the can. The contact of the p goods with solder should also be carefully prevented, i as solder contains often as much as fifty per cent. of le is very common, however, to find lumps of solder in the goods and also to find the solder protruding through the points of the can and cover so as to be exposed to the action of the co

Copper in Peas.—Equally objectionable is the habit of using salts to impart a bright green colour to canned peas and othe The imported French peas are uniformally coloured with copp addition of a little copper, in any vegetable, which it is desired green when served, has a happy effect in that direction, and able cooks have not been slow to learn this. It is true that the of copper which one would eat in a single meal where French served, would not prove greatly injurious, but on that large pa population who are compelled to dine every day on truffles interspersed with terrapin and champagne, there is great dange copper acting with accumulative effect.

I have already spoken of the danger which may lurk in preser such as salicylic acid, but there is also an occasional source o in the development of nitrogenous bodies called ptomaines in p meats. These bodies may develop with astounding rapidity if meat be opened, and not eaten for a day or two. An illustratio fatality of the action of such bodies is unfortunately often foun case of tyroxicon, a poison often developed in milk or cream.

The above will serve as illustrations of the more common adulteration to which our foods are subjected. The idea m formed from this array of facts that foods are almost all adulterat that it is extremely difficult to obtain anything pure. Newspap to magnify these accounts of adulteration. As a matter of fa the greater part of foods which Americans eat is pure and wh It is only the small quantity of adulterated food from which w strive to protect ourselves.

GIFTS TO THE UNIVERSITY COLLEGE, LIVERPOOL.—It pleasure we announce that Mr. Henry Tate has presented to this c collection of standard works valued at about £5,500. By this students will be provided with works of reference in each dep of literature and science. It is also announced that Lord Der has succeeded his brother as president of the college, has given tion of £10,000 to endow a Chair of Anatomy.

TECHNICAL INSTITUTE FOR RUNCORN.—The foundation s a new technical institute for Runcorn was laid recently Brunner, M.P., in the presence of a large assembly. The bui being constructed from plans prepared by Mr. Bowden, a Manchester. It is estimated to cost £4,000., towards which m half has been received as promised, including £500. from Mr. E who in performing the ceremony delivered an address on the v higher education.

Correspondence.

not hold ourselves responsible for the opinions expressed by our correspondents.

THE SALFORD SEWAGE EFFLUENT.

To the Editor of The Chemical Trade Journal.

notice with extreme surprise Sir Henry Roscoe's attempt at ng of the Joint Committee on Monday last to discredit my reference to his tests of the Salford effluent. Escape from na is not, however, so easy, especially when he fixes as the s argument upon the absence of ferrous compounds in the Every chemist is aware that when ferric salts are added to ey are reduced to the ferrous state. I have made hundreds s of effluents, and have never found one in which iron has ly absent. It is somewhat strange, therefore, to find that the Salford effluent should be, according to Sir Henry, free from ts when tons of iron in the ferrous and ferric forms are being the Salford sewage. In conclusion, I may say that I have orted to the Salford Corporation on the oxygen test alone, lways combined it with more trustworthy tests.—I am, &c, ff, Hr. Broughton. J. CARTER BELL, County Analyst.

Selected Correspondence.

THE SALFORD SEWAGE EFFLUENT.

To the Editor of the Manchester Guardian.

is somewhat presumptuous to question any chemical state- by Sir H. Roscoe, but when it is reported that he said "he ain before applying the oxygen test whether or not ferrous resent, and in every case he had found none," is there not ike? Does Sir H. Roscoe mean that no iron whatever was the effluent, in spite of iron salts having been used to purify ? For, if any iron salts were present, and the effluent also putrescent matter, these salts would be partially reduced to state, and thus his argument would fail.—Yours, &c.,

AN ANALYTICAL CHEMIST, M.A. OXON.

NSWERS TO CORRESPONDENTS.

ow).—Thanks for particulars; we shall be glad to have any more of a ature that appear.

ombay).—We have not received it to the best of our knowledge. We ecuting inquiries at this end.

his week.

nalysis appears in the Trade Notes on p. 369 of No. 238, Vol. IX. of the The preparation is only permissible under special licence, being a composition.

all this week. The two subjects could not be well treated together. It w next week in all probability.

DISPOSAL OF SEWAGE SLUDGE AT SALFORD.

A SLUDGE STEAMER TO BE BOUGHT.

AL Government Board inquiry has been held recently at alford Town Hall, relative to the sanctioning of a loan of or purposes of sewage disposal (including the provision of a or the removal of sludge to sea).

Holmes (Deputy Town Clerk) stated the object for which ere required. The Borough Engineer (Mr. Joseph Corbett) eamer would be supplied by Messrs. Simon and Co., of nd would have a carrying capacity of 600 tons. Their for £12,000., but an additional £2,000. would be required anks, pipes, &c. The Corporation had free use of a wharf he Canal, beside their sewage works at Weaste, and an e would be laid below the surface to convey the sludge into . This sludge would be taken a distance of about sixty miles arf, that was to say, about ten miles beyond the bar lightship at and considerably further than the spot where the Liverpool ings were tipped. He calculated that three journeys per l be sufficient to keep pace with the present output, but the journeys would be increased to four or five in order to et rid of an accumulation of 120,000 tons of semi-dried e sewage works. The annual cost of this system of sludge estimated at £3,200., or rather less than 5d. per ton. [The oving 177,345 tons of solid matter per annum from the sewage of the Metropolis is about 18s. per ton.—ED. *C.T.J.*] Extra tank accommodation would be provided at the works, so that if the steamer suffered any accident they could allow of eighteen days' delay without inconvenience.

Mr. Santo Crimp, C.E., formerly deputy Bow engineer to the London County Council, stated that he thought the course suggested was the wisest under the circumstances. Burning refuse by means of a destructor would be, in his opinion, more expensive.

No opposition was offered to the application.

The Inspector, prior to the closing of the inquiry, expressed a desire to see the tanks at the sewage works.

SOCIETY OF CHEMICAL INDUSTRY.

MANCHESTER SECTION.

THE usual monthly meeting of this Section was held at the Victoria Hall, on Friday, May 4th, Ivan Levinstein, Esq., presiding. After the discussion of certain matters, during the half-hour set apart for such discussions, Dr. C. O. Weber read a paper on "The Analysis of Rubber Articles," in the course of which he pointed out that the majority of rubber articles were not made of pure rubber, and that the composition of the different brands of rubber also varied, facts which affected the methods of analysis adopted in some cases. He outlined a process of analysis which occupied about half-a-day, and dwelt at some length on the nature and preparation of solvents for dissolving rubber. He advocated the use of acetone as being the most convenient solvent, in that it was miscible with water in all proportions, and had no action on the India rubber itself. Mr. Terry briefly criticised the paper. Mr. Dreyfus then read a paper on "Resist and Discharge Styles with Aniline Black," which was illustrated with a number of specimens of dyed fabrics. There were few colours, he said, that had rendered greater service to the calico printer or to the dyer than aniline black; it was no exaggeration to say that the weight of goods at present dyed and printed with this colour was equal to, if not greater than, the weight dyed and printed with any other colour. Without going at length into the history of the application of this black for dyeing and printing, he referred to the high degree of perfection that had been attained in the application of this colour in printing and in the dyeing of yarn, raw cotton, and piece goods.

Trade Notes.

THE GERMAN SOCIETY OF APPLIED CHEMISTRY.—The Annual General Meeting of this society will be held at Cologne, on May 20th, 21st, 22nd, and 23rd inst. The general meeting and presentation of the report of the society will take place on the 21st, at the Hotel Disch. In the evening a banquet will be given. On the other days excursions will be made to different works, including a glass works, margarine factory, and gas-engine manufactory.

THE CENTRAL CYCLONE CO., LIMITED.—We are informed that this company have further developed their grinding machinery, so that they can now not only grind in a dry state to an impalpable powder, but can separate the fine particles, no larger than dust, from the coarser particles, and deliver the former direct into casks or sacks, without any screening or sieving. In consequence the cost of fine grinding can by this means be materially lessened.

THE GERMAN BEET SUGAR INDUSTRY.—The following figures give the official returns in connection with this industry during the last decade :—

	Number of Factories.	Beets worked up in thousands of tons.	Hectares under cultivation.	Yield per acre. lbs.	Raw sugar produced in the Factories. tons.	Yield per cent of Beets.		
						Masse-Cuite.	Raw Sugar	Molasses.
1883-84	376	8,918	298,271	26,310	940,109	13·65	10·54	2·33
1884-85	408	10,403	316,191	28,340	1,123,030	13·93	10·79	2·50
1885-86	399	7,070	234,116	26,580	808,105	14·51	11·43	2·55
1886-87	401	8,307	276,889	26,400	985,628	15·00	11·87	2·60
1887-88	391	6,964	263,786	23,230	910,698	16·14	13·08	2·63
1888-89	396	7,896	280,361	24 820	944,505	14·76	11·96	2·55
1889-90	401	9,823	298,560	28,950	1,213,689	15·06	12·36	2·45
1890-91	406	10,623	326,917	28,340	1,284,485	14·82	12 09	2·48
1891-92	403	9,488	330,454	24,820	1,144,368	14·68	12 06	2·58
1892-93	401	9,812	352,015	24,550	1,175,137	—	11·98	—

N B.—The quantity produced, as given above, does not include the raw sugar extracted from molasses in refineries, etc., which may be roughly estimated at 50,000 tons annually for the last 10 or 12 years.

Market Reports.

TAR AND AMMONIA PRODUCTS.

Benzol has shown no improvement during the week, 90's if anything being a shade easier at 1s. 1d. The price of 50/90's, however, is unaltered. Carbolic acid is steady, there being no change in 60% crude, though 40% crystals are a fraction lower. Crude naphtha (30%) has also a tendency to be easier in price at 5½d. to 6d. per gallon Solvent naphtha, however, remains firm at 1s. 2d. Anthracene is stationary at convention prices. Pitch f.o.b. East coast is firm, and fetching a slight advance on last week's quotation.

Sulphate of ammonia has recovered somewhat. It is hard to compute the possible meaning, and duration of the improvement in the face of the approaching holidays, but the demand seems to come from dealers principally. At Beckton £13. is quoted. Value for London outside makes ranges from £13. to £13. 2s. 6d., Liverpool £13. 2s. 6d., Hull £13., Leith £13. 2s. 6d. to £13. 5s.

MISCELLANEOUS CHEMICAL MARKET.

In the alkali trade there are no quotable changes to report of consequence. The demand for caustic soda is still quiet, but prices are steady at rates which have been ruling for some time past, viz. :—F.o.b. Tyne, 77%, £10. 15s. ; f.o.b. Liverpool, 74%, £10. ; 70%, £9. ; 60%, £8. 2s. 6d. ; cream, 60%, £7. 17s. 6d. per ton, 10-ton lots and upwards. Bleaching powder is in brisk demand at £7. 10s. makers' works, and £8. f.o.b. Ammonia alkali unchanged at £3 2s. 6d. to £3. 5s., bags, f.o r. Chlorate of potash has a tendency to weakness, there being sellers at 7d. to 7¼d. Chlorate of soda, 8¾d. Recovered sulphur, £3. 17s 6d. to £4. per ton f.o.r. In saltcake there is more inquiry for prompt and forward delivery, and there is some anticipation of an upward movement in price. Nitrate of soda lower at 9s. 10½d. per cwt. For sulphate of copper £15. :0s per ton is still the ruling price, with good demand thereat. Acetates all round continue extremely dull. Potash, caustic and carbonate, are in good request, and prices are firm. Carbolic acids in all grades are neglected, the usual brisk demand expected at this time of the year being absent. Yellow prussiate of potash steady at 10½d. to 10¾d. Miscellaneous chemicals for the textile trades are only in moderate demand, and in many branches the trade is reported exceedingly quiet.

THE COPPER MARKET.

Messrs. Harrington and Co , in their fortnightly report, dated Liverpool, May 2nd, 1894, state :—

Chili Charters for the second half April are advised as 850 tons, which with 800 tons for the previous fortnight makes 1,650 tons for the month. The total since 31st December is 6,400 tons against 6,250 tons same time last year. Exchange 12 7/16d. Since our last the market for G O.B.'s and G.M.B's has been quiet, and only about 4,000 tons sold at from £40. 5s. cash and £40. 15s. three months down to £39. 17s. 6d. to £40. 8s. 9d. respectively, which is the lowest price since May, 1889. The total stocks in Liverpool, Swansea, London, and Havre are 43,206 tons, against 43,284 tons on the 16th ult., showing a decrease of 78 tons for the fortnight. The figures for the previous fortnight showed an increase of 537 tons, making an increase for the month of 459 tons. The stocks include about 1,200 tons of copper sold, but not yet delivered to smelters. The visible supply for the fortnight is 46,805 tons, against 46,673 tons on the 16th April, showing an increase of 132 tons. The month's figures show an increase of 304 tons The stock of English G.M.B.'s in Liverpool remains at 3 tons. Refined and manufactured sorts are dull, quotations being : —Tough cake, £41. 15s. to £42. 5s. ; best select, £43. to £43. 10s. ; Indian sheets, £47. 5s. to £47. 15s. ; strong sheets, £51. to £51. 10s. ; and yellow metal sheets, 4 5/16d. to 4¼d. per lb.

The sales of furnace material only comprise 20 tons Cuban Precipitate, at 7s. 9d. and 8s. ; 15 tons Spanish Precipitate, at 8s. per unit ; 90 tons Argentiferous Spanish Matte ; and 2/2300 tons low produce Spanish Ores, on private terms.

LIVERPOOL OIL AND COLOUR MARKET.

WEDNESDAY.

OILS.—Palm oil is steady, and in fairly good demand, at £21. 5s. per ton ex quay. Hard and soft oils remain as quoted last week. Olive is practically without alteration, at £29. to £37. per tun, according to quality. Linseed is decidedly firmer, Liverpool makes in export casks now being held for 21s. 9d. to 22s. per ton. Cottonseed is steady, at a slightly advanced figure, Liverpool refined being quoted 21s. 6d. to 22s. per cwt. Castor oil is quiet. Good Calcutta are easier at 2 3/16d. to 2¼d., according to quantity. pressure French continues to be offered on spot at 2 5/16d. Tallow is firm, and there is but little offering, and business pa small. There is a fairly good business doing in resin of all common still being quoted 3s. 9d. per cwt. Spirits of tu continue firm, being somewhat scare, and 22s. 9d. per cwt. wanted. Petroleum, though quiet, is firm in price at 4¼d. to 5 American, and 3 5/8d .to 3¾d. per gallon for Russian refined.

COLOURS are steady without alteration in Ochres: Oxfordshire, common, £10., medium, £12., best Derbyshire, common, 40s.; medium, 50s., best, 60s. ; Welsh 70s., seconds, 50s., and common, 18s.; Irish, Devonshire, 45s.; French, J.C., 55s. to 60s.; M.C., 65s. to 67s. 6d. Turkish quiet; Devonshire, 50s. to 55s. White lead, an of zinc unchanged. Venetian red, £6. 10s. to £10. Prepared oxide, 9s. 9d. ; black, 9s.; blue, 6s. Zaffres : 3s. 6d. ; No. 2, 2s. 6d. Oxide of iron : Common, £6. ; m £10. ; finest, £20. Zinc oxide, £23. to £25.

REPORT ON MANURE MATERIAL.

Throughout the market has been quiet for prompt or early d but more attention has been given to forward business. The of mineral phosphates is easier. The value of 75/80% Florid 1894 shipment, is 8¼d. to 8½d., according to port, cost frei insurance to Continent, but to good United Kingdom port scarcely above 8d per unit. For Summer-Autumn shipment would now do for South Carolina River rock, and probably fo River. Continental descriptions are easier in proportion £ to a direct United Kingdom port has been paid for a large c River Plate bones, summer shipment, and there are buyers at £4. 15s. East India bone meal is, on the contrary, £4. 15s per ton having been accepted for autumn shipr Glasgow. £4 15s. is closing value in that position, ex quay Li Glasgow, or Hull, and for shipments due next month 2s. 6d. less would have to be taken. On spot the value is £4. 15s. e Common grinding bones are selling at £4. 17s. 6d., ex quay Liverp parcels suitable for charring, at £4. 10s. to £4. 12s. 6d. Nitrate of soda is again easier, as the end of the season appr On spot the value of ordinary quality is 9s. 10½d. per cwt., refined 10s. per cwt. Arrived cargoes are worth about 9s. cwt., but for anything due but not arrived under 9s. would ha taken to effect business. Later shipments can be bought a 8s. 9d. Nothing to report in other material.

THE METAL MARKET.

LONDON, WEDNESDAY.—Pig iron, dull : Scotch w closed at 41s. 10½d., Middlesbrough 35s. 5d. cash, and hematite Copper, steady : Chili bars, G.O.B.'s and G.M.B.'s, cl £39. 17s. 6d. to £40. 3s. 9d. cash, and £40. 7s. 6d. to £40. 12s. 6 months. Tin, easier: Straits closed at £72. 5s. to £72. 15 and £73. to £73. 10s. three months ; Australian, £72. 1 English ingots, £76. Lead, quiet : Spanish, £9. to £9. 1 English, £9. 2s. 6d. to £9. 3s. 9d. Silesian Spelter, ordinary 12s. 6d. Nickel, 1s. 8½d. Antimony, £34. Quicksilver hands, £6. 9s. ; second hands, £5. 19s. *Copper shares*, dull : 1 5/16 to 1 7/16 ; Copiapo, 1 9/16 to 1 11/16 ; Libiola, 3 to 3¼ ; Mason and 2 9/16 to 2 11/16 ; Rio Tinto, 14 13/16 to 14 15/16 ; Tharsis, 4½ to 4⅝.

TYNE CHEMICAL REPORT.

TUES

Chemicals in fair demand, and exports are tolerably good. generally are unaltered. Soda crystals, £2. 1s. and £2. 2s. ton gross weight, locally ; caustic, 76/77%, £10. 10s. and £1 Sulphur in better demand, at £3. 17s. 6d. per ton. Other qu as under :—

Bleaching Powder, softs, £7. 10s. per ton, nett; hards, £7. 15s nett ; caustic soda, 76/77%, £10. 15s. per ton, nett ; do., 70 per ton, nett; recovered sulphur, 2 cwt. bags, £3. 17s. 6d. per to soda ash, 48%, £3. 12s. 6d. per ton, nett ; do., 52%, £3. per ton, nett ; do , 56%, £4. per ton, nett ; alkali, 36%, £ per ton, nett ; white alkali, 48%, £4. 10s per ton, nett ; do , 5 15s. per ton, nett ; do., 52%, £5. 5s. per ton, nett ; hyposul soda, 5-7 cwt. casks, £5. per ton, nett ; do., 1 cwt. kegs, £ per ton, nett ; silicate of soda, 75° Tw., £2. 17s. 6d. per ton do., 100° Tw., £3. 12s. 6d per ton, nett ; do., 140° Tw per ton, nett ; soda crystals, casks, £2. 2s. 6d. pe gross weight ; do., 2 cwt. bags, £2. 2s. 6d. per ton,

of potash, 7½d. per lb., less 6%; pearl hardening, ton, nett; pure white sulphate of alumina, £4. 2s. 6d. ett; blanc fixe, £7. 10s. per ton, nett; chloride of barium, per ton, nett; carbonate of alumina, £28. 15s. per ton, minate of soda, £33. 15s per ton, nett; in 5 ton lots, £28. n, nett.

Durham Salt is firm, and scarce at 10s. per ton, f.o.b.

Trade is quieter, and short time is being worked in some — Best Northumbrian steam, steady, 10s per ton; second 9s. per ton; small steam, 4s 6d. and 4s. 9d per ton. Bunker k: Unscreened 6s. 9d., and 7s. per ton; best Durham, 9s. 6d. per ton. Coke in fair inquiry, at 13s. and 14s. per

WEST OF SCOTLAND CHEMICALS.

GLASGOW, TUESDAY.

pression in the staples of the manufactured chemicals continues, sible, the feature is even more marked. It is true that there n activity in chemicals getting ready for shipment abroad, but for the most part to past orders, and new business is far too Amongst manufacturers the complaint of keen foreign com- again not infrequently heard. The mineral oil and paraffin still rather excited (unhealthily), and the suspicion of forced ntinues. The financial report of the Broxburn Company is ing about £12,000. more of profit made than during the year. Everything is met, including depreciation and prefer- est, but again there is no dividend on the ordinary stock. ank also is out, with something on the right side, but not r dividend, or even for writing off for depreciation, which is tory. The northern market for sulphate of ammonia is in a , with whispers of being done down as low as £12. 15s spot, e are some holders who still talk of not less than £13. to 5d. Continental letters assert that very low offers for spot ave been received from certain quarters in the manufacturing

ices current are:—Soda crystals £2. to £2 2s. 6d. nett, Tyne; 48/52° £3. 12s. 6d. to £3. 17s. 6d. nett, Tyne; white alkali 10s to £5. 5s. nett, Tyne; alum in lump £5. 10s. nett, Glasgow; da, white, 74° £10., 70/72° £9., 60/62° £8. 2s. 6d., 60/62° £7. 17s. 6d., all nett, Liverpool; bleaching powder d. to £7. 10s., nett, Tyne; saltcake, 17s. 6d.; borax, English 23., and boracic acid, £32. 10s. nett, Glasgow; bicarbonate of vt. casks, £6. 10s., and 1 cwt. casks £6. 15s. nett, Liverpool; e of potash, 4½d. nett, for Scotch and English deliveries (for £d. nett, f.o.b. Glasgow); bichromate of soda, 3¾d. nett, for d English deliveries (for export, 3½d. nett, f.o.b. Glasgow); f potash, 7¼d. less 5%, Liverpool; nitrate of soda, 10s. 3d.; fammonia, say £12. 17s. 6d. to £13 2s. 6d. prompt, f.o.b. Leith; iac, first and second white, £39. and £37. nett, any port; f copper, £15. 10s., less 5% Liverpool; paraffin scale, hard 1⅞d. to 2d. per lb.; paraffin wax 120° semi-refined 2⅜d. to 2½d.; pirit (naphtha), 3½d. to 4d. per gallon; paraffin oil (burning), No. 1 grade, 5d. at works, for Scotch buyers (English sales, ¼d. lower); ditto (lubricating) 865° £3. 10s. to £3. 15s.; to £4. 15s., and 890/895° £4. 15s. to £5. 10s. Week's f raw sugar at Greenock were 3,600 bags.

L PAINT, OIL, AND COLOUR REPORT.

TUESDAY.

—During the week 2,280 tons of cottonseed have arrived from la. The imports include the following up to date in 1894 and linseed 159,940 qrs., against 109,173 qrs.; rapeseed 42,955 nst 15,814 qrs.; cottonseed 97,986 tons, against 99,204 tons; 8,090 casks, against 5,001 casks; rape oil 3,174 casks, against ks; oil cakes 8,790 tons, against 7,183 tons; tallow 5,880 ainst 10,884 cwts.; bones 3,029 tons, against 2,716 tons; 4,352 barrels, against 3,426 barrels. The export of refined has been during the past week 4,780 cwts.; the price im- out 7s. 6d. per ton, closing quiet at 19s. 9d. naked spot; ist offer at 20s. The export of linseed oil has been during veek 2,380 cwts; the price is about 5s. per ton dearer on the sing steady at 19s. 9d. naked spot; May-August, 19s. 3d; Sep- ecember 18s. 3d. Refined and boiled from £1 to £2 per ton ape and olive oils unchanged. Turpentine, 22s. 9d. per stor oil, first pressure, from 2¼d. per lb. Cod oil from £17. er ton. Sod oil, for tanners, curriers, etc., from £17. to ton. Engine and spindle oils from 1s. to 2s. per gallon.

S.- Some of the crushers are closing their mills for a short time. akes: Rather more orders, at present reduced rates; 95% pure, 5d. to £7. 2s. 6d; Russians, £6. 17s. 6d. to £7. 2s 6d.; ordinary, £6. 2s. 6d. per ton. Cotton cakes: A fair consumption at present low prices: best makes, £4 to £4. 2s. 6d.; seconds, £3. 17s. 6d. Rape Cakes: East India, £4. 5s.; Black Sea, £3. 7s. 6d. per ton.

PAINTS.—This port is rapidly rising in favour for the exportation of mineral dry colours to the northern and other ports. Prices are:— Venetian red dry, £3. 10s. per ton; blue black, £4. 5s. per ton; mineral black, £3. 15s. Good quality yellow ochre, £3 10s. per ton, these are f.o.b. quotations and include casks. White lead in oil, £17. 10s. per ton.; red lead, £13 10s. per ton. Oxide of iron, dry, from £9. to £18. Lime blue, 16s. per cwt. Ready mixed paints in various sized tins £26. per ton. Common black varnish in good request, £5. 10s. per ton in barrels. Oak varnish from 5s 6d. per gallon.

New Companies.

Chemical Union, Limited. CAPITAL £10,000., in shares of £10. each. This company has been formed to take over the business of O. and E. H. Fison, at Ipswich, and to trade as manufacturers and dealers in compounds of soda, alkalies, tar products, disinfectants, etc. The subscribers to the memorandum of association are:—J. O. Fison, J.P., Stretton Hall, Suffolk; E. H. Fison, F.C.S., Stoke House, Ipswich; F. J. Cubitt, Runcton House, Bramford, gentleman; R. Johnson, Hollesley Bay, Suffolk, director; G. B. Courtney, M.A., M.B., 47, Seymour-street, W.; B. H. Chevallier, 1, Victoria-road, Old Charlton, commander; T. C. Beaven, Lan-y-Goppa, Abergele.

Natural Epsom Salts Company, Limited.—CAPITAL £80,000., in shares of £10. each. This company has been formed to import and deal in salt, brine, and other chemical products. The subscribers to the memorandum of association are:—T. Warnhouse, 45a, Market-street, Manchester, chemical manufacturer; T. Harris, Runcorn, chemical merchant; T. Ransome, Hett Bank, Lancashire, chemist; J. Burt, Lower Broughton, manager; J. W. Cowburn, 70, Market-street, Manchester, chemical merchant; W. S Blythe, 10, Marsden-street, Manchester, chemical merchant; J. Artbury, 34, Pall Mall, Manchester, chartered accountant.

Lancashire Rubber Company, Limited.—CAPITAL £70,000., in shares of £5. This company has been formed to acquire the works and business of A. Mc. Dougall, of Pendleton, Lancashire, and to work certain patents for waterproofing. The subscribers to the memorandum of association are:—C. B. Kendall, 67, Upper Thames-street, E.C., merchant; J. H. Genn, 67, Upper Thames-street, E.C., merchant; F. C. Ramshair, Falkland-road, Hornsey, N., gentleman; J. H. Stephenson, 3, Newman-court, Cornhill, merchant; P. Parsons, Caterham, clerk; J. Henderson, 24, Birchin-lane, E.C., director; H. G. Lovejoy, Ashford, clerk.

New Urbino Sulphur Syndicate, Limited.—CAPITAL £1,500., in shares of £1. each. This company has been formed to get, raise, and make marketable certain minerals in land situate at Caldece and Calbardolo, Italy.

Whalley's Sanitary Fluid Company, Limited.—CAPITAL £8,000., in shares of £1., made up of 7,500 "A" shares and 500 "B" shares. This company has been formed to manufacture chemical fluids for disinfecting purposes, etc. The subscribers to the memorandum of association are:—T. M. Harvey, Portland House, Basinghall-street, E.C., merchant; J. A. Ewen, 11, Bunhill-road, E.C., merchant; J. Graham, 24, Coleman-street, E.C., merchant; E. J. Franklin, 122, Peckham Park-road, S.E., agent; W. Pocher, 2, Cornwall-terrace, Regent's Park; W. Russell, Braemar, Long Ditton, stockbroker; W. Graham, 24, Coleman-street, E.C.

The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of George E. Davis and Alfred R. Davis, who report professionally upon the value of Chemical Patents.

APPLICATIONS FOR ENGLISH LETTERS PATENT.

Apparatus for Cleansing Wool, etc. O. Reichenbach. 7,975. April 23.
Production of Caustic Soda and Chlorine by the Decomposition of Common Salt. T. Drake. 7,985. April 23.
Improvements in Soap. J. H. Iredale and J. W. W. Huddleston. 8,022. April 23.
Autogenous Soldering Apparatus. L. Longuemare. 8,029. April 23.
Improved Bunsen Burner. J. P. Pilley. 8 039. April 24.
Manufacture of Salt. R. Hodgson. 8,048. April 24.
Manufacture of Cottonseed Meal. G. H. Croker. 8,049. April 24.
Apparatus and Process for Electrolytical Decomposition. H. Carmichael. 8,061 April 24.
Smoke-Preventing Furnaces. N. Chandler and H. Railings. 8,067 April 24.
Producing Metallic Zinc. P. G. Choate. 8,085. April 24.

Improvements in Filter Presses. H. Farmer. 8,099. April 24.
Turning Sewage and Town's Refuse into Fuel. J. Posno. 8,117. April 24.
Production of Copper Colours. C. M. Pielsticker. 8,178. April 25.
Precipitation of Precious Metals from Cyanide Solutions, etc. J. M. McArthur. 8,184. April 25.
Manufacture of Zinc White Paints. W. C. Horne. 8,213. April 25.
Injectors for Burning Tar, etc. T. Hands and J. Malam. 8,234. April 26.
Improved Paint Compound and Pigment. A. S. Caine and H. Gillmor 8,297. April 26
Improved Paint Compound and Pigment. A. S Caine and H. Gillmor 8,298. April 26.
Process and Apparatus for Manufacture of Ferrocyanides of Potassium and Sodium from their Sulphocyanides. H. W. Crowther, E C. Rossiter, J. H. Hood, and G S. Albright. 8,305 April 26.
Extraction of Metals from Oxides and Sulphides. C. T. J. Vautin. 8,306. April 26.
Retorts for Distilling Shale, etc. J. Bryson, J. Jones and W. Fraser. 8,371. April 27.
Manufacture of Metal Tubes. A. E. Muirhead. 8,372. April 27.
Manufac ure of Paraffin Wax. A. G. Spilsbury. 8,399. April 27
Preparatory Coating for Soldering Aluminium and its Alloys. H. Ramage. 8 401. April 27.

Purifying and Decolourising Saccharine Juices, etc. B. Lach and H. Benies. 8,463. April 28.
Making Plaster of Paris from the Lime Mud from Reduction o Ammonium Sulphate. J. L. Kerr. 8,475. April 28.
Smoke-Consuming Apparatus. G E. Wery. 8,479. April 28.

Gazette Notices.

PARTNERSHIPS DISSOLVED.

J. Snowdon, Junr., M. Todd, W. F. Snowdon, and Wm. Westall, lubricant manufacturers, West Ferry-road, Millwall, E., under the style of Snowdon Sons and Co., as far as regards Wm. Westall.

G. H. Fisson, and W. C. Fisson, manufacturers of vitriol manures, etc., Thetford, Lynn, Whittington, and East Dereham, Norfolk, or elsewhere, under the style of James Fisson and Sons, so far as regards G. H. Fisson.

M. Devane and W. Crowe, ink manufacturers and drysalters, Liverpool, under the style of Devane, Crowe and Co.

IMPORTS OF CHEMICAL PRODUCTS AT THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending April 28th.

Acetic Acid—
Holland, 142 pkgs. A. & M. Zimmermann
,, 2 Domeier & Co.
,, 70 Beresford & Co.

Acetone—
Holland, 6 pkgs. A. & M. Zimmermann
Belgium. 1 H. Lorenz

Alkali—
France, 440 c Arnati & Harrison
Germany, 21 pkgs. L. & I. D. Jt. Co.

Alum—
Belgium, 24 pkgs. R. W. Greeff & Co.

Aluminium—
Belgium, 10 c. Major & Field

Antimony Ore—
Kobe, 49 t. L. & I. D Jt. Co.

Arsenic—
Melbourne, 27 pkgs. L. & I. D. Jt. Co.

Asbestos—
Holland, £66 Phillipps & Graves
U. States, 15 L. & I. D. Jt. Co.

Barytes—
Belgium, 30 cks. J. L. Lyon & Co.
,, 25 A. Zumbeck & Co.
Germany, 57 D Storer & Sons
,, 187 W. Harrison & Co.
Holland, 42 R. Bew

Camphor—
Japan, 66 tbs. S. Figgis & Co.
Germany, 1 cs. L. & I. D. Jt. Co.
Japan, 70 tbs City Coml Wf, Ld.

Caoutchouc—
E. Indies, 26 c. Ralli Bros.
,, 14 Ross & Deering
,, 40 L. & I. D. Jt. Co.
Zanzibar, 26 Clarke & Smith
Belgium, 15 W. Balchin
Ecuador, 2 Prop. Bull Wf
Ceylon, 14 Major & Field
C. America, 56 Price, Hickman & Co.
France, 6 H. Johnson & Sons

Castor Oil—
E. Indies, 100 cs. Anderson, Weber & Smith
Italy, 10 City Coml. Wf., Ld.

Caustic Potash—
Holland, 104 pkgs. J. M. Steel & Co.
,, 7 cs. E Merck
France, 10 pkgs F J. Putz & Co.

Caustic Soda—
Belgium, 17 c. Beresford & Co.

Chemicals (*otherwise undescribed*)
Germany, 28 pkgs. T H. Lee
,, 70 A. & M Zimmermann
,, 6 H. Lambert
,, 2 Craven & Co.
,, £11 M. D. Co.
,, 8 W. J. Crook
U. States, 5 L & I. D. Jt. Co.
Belgium, 7 D. C. Thomas & Sons
,, 4 pkgs T. H. Lee
Holland, 5 J. Barber & Co.
Belgium, 38 Lawes Chmcl. Co.

Citric Acid—
Germany, 18 pkgs. W. M. Smith & Sons

Cream of Tartar—
France, 1 ck. J L. Lyon & Co.
,, 5 pkgs G. Ward & Sons
,, 15 W. C. Bacon & Co.
Spain, 1 ,,
,, 8 C. Christophersen & Co.
,, 2 Evans, Lescher & Co.
,, 19 cks B. & F. Wf. Co., Ltd.
Holland, 39 pkgs. Kirkpatrick & Co.
Italy, 8 Fellows, Morton & Co Ltd
,, 8 Tnames S T. & L. Co,
France, 2 Ross & Deering

Dyestuffs—
Annatto
U States, 13 pkgs. Forwood Brs & Co.
Ceylon, 4 Anderson, Weber & Smith
Argols
Italy, 774 pkgs B. Jacob & Sons
,, 42 Thames S T. & L. Co., Ld.
Extracts
Denmark, 50 cks. Bailey & Leetham
France, 50 pkgs. Prop. Chmbln.'s Wf.
,, 100 Hepburn & Co.
,, 292 L. J Levinstein & Sons
U. States, 1 L & I. D. Jt. Co
Gambier
E. Indies, 233 pkgs. Sollas & Sons.
Indigo
E. Indies, 63 chts. Park, Macfadyen, & Co
,, 18 Croysdale & Co
,, 27 Stansbury & Co.
,, 43 Ernsthausen & Co.
France, 36 Wallace Brs.
,, 1 Gray, Laurier, & Co.
E. Indies, 86 L. & I. D. Jt. Co
Ceylon, 26 ,,
Myrabolams
E. Indies, 2,066 pkgs. A. Hagan
,, 3,049 W. Shelcott
,, 1,000 Darling Brs.
,, 1,350 Lucas & Spencer's Wf.
,, 2,001 G. & H. Green
,, 334 Hoare, Wilson & Co.
,, 2,137 J. J. Williamson & Sons
,, 620 Baxter & Hoare
Saffron
Spain, 1 pkge. C. Brumlen & Sons
Sumac
Italy 100 pkgs. W. Barter & Co.
,, 210 J. Graves
Tanners' Bark
Adelaide, 20 t. Union L. Co, Ld.
Natal, 41 Boutcher, Mortimore, & Co
,, 56 A. & W. Nesbitt
,, 35 Anning & Cobb
,, 10 L. & I. D. Jt. Co
,, 9 Dahmann, Walker, & Co.
Belgium, 6 Leach & Co.
Turmeric
E Indies, 239 pkgs. Prop. Bull Wf
,, 21 Scruttons, Ld
,, 79 G. & H. Green
,, 180 Wallace Brs.
Germany, 20 Ross & Deering
U. States, 478 Lewis & Peat

Farina—
Germany, 100 pkgs C. Tennant Sons, & Co
,, 100 P. Windmuller & Co.
,, 10 Dutrulle, Solomons, & Co.
,, 250 C F. Webster & Co
,, 100 J. Barber & Co
Austria, 100 Phillips & Graves

French Chalk—
Italy, £90 W. Harrison & Co.

Glucose—
Germany, 335 pkgs. 335 c. J. Barber & Co.
,, 14 110 J. Knill & Co.
,, 500 500 Baxter & Hoare
France, 200 200 Barrett, Tagant & Co.
U. States, 250 250 Barrett, Tagant, & Co
,, 1,440 1,440 Prop. Chlns. Wf.
,, 5 21 Feurst Brs.
,, 1,000 1,000 L. Sutro & Co
,, 250 250 J. Barber & Co
,, 220 1,210 T. M. Duche & Sons
,, 150 600 Pillow, Jones & Co.
,, 250 250 Prop. Fenning's Wf.
,, 100 600 Deering & Robottom

Guano—
France, 350 t. Anglo Cont. Guano Wks.

Infusorial Earth—
Germany, £21 T. H. Lee

Iron Oxide—
Persn. Gulf, 516 t. F. C. Strick & Co.

Lead Acetate—
Germany, 16 pkgs. F. Boehm
,, 16 W. H. Smith

Manure—
Lyttelton, 2 t. Deering & Robottom
Peru, 1,430 Anglo Cont. Guano Wks.
Germany, 50 Anglo Cont. Guano Wks.
,, 20 F. W. Berk & Co., Ld.
E. Indies, 100 F. J. Cornwell, Son, & Co.
France, 30 J. Burnett & Sons
Chili, 2,130 W. Montgomery & Co.
N. Russia, 8 Darling Bros.
France, 98 A. Hunter & Co.
E. Indies, 135 ,,

Methyl Alcohol—
Belgium, 12 cks. Lister & Biggs
Germany, 7 brls. Stein Brs.

Mica—
E. Indies, £380 W. M. Smith & Sons

Naphthaline—
Germany, 32 pkgs Fleming's Oil Co.

Ochre—
Holland, 9 cs. Phillipps & Graves
Italy, 4 cks. J. Greig
France, 21 Stobbs, Wilson & Co

Paraffin Wax—
U. States, 200 brls. H. Hill & Sons
,, 6,384 Anglo-Amer. Oil Co.

Phosphate Rock—
Belgium, 200 t. West & Pearose
France, 100 Mead, Son & Co.
,, 100 A. Hunter & Co.
Holland, 240 Odam's Chmcl. Manure Co.

Plumbago—
Germany, 10 cs Craven & Co.
Ceylon, 80 brls Beresford & Co.
,, 200 Lucas & Spencer's Wf.
Germany, 8 cs. B. & F. Wf. Co.

Potash—
France, 27 pkgs. Mead, Son & Co.

Potassium Bicarbonate—
Holland, 30 pkgs. A. & M. Zimmermann

Potassium Carbonate—
France, 360 c. Charles & Fox
,, 20 Beresford & Co.
,, 40 Spies Bros. & Co.
Germany, 130 F. Boehm
,, 126 A. J. Luke & Co.
Holland, 62 Petri Bros.
,, 100 Spies Bros. & Co.

Potassium Chloride—
Germany, 400 pkgs. F. W. Berk & Co.

Potassium Cyanide—
Holland, 13 pkgs. F. Boehm

Pumice Stone—
Italy, 1 t. Beresford & Co.
Holland, 12 c. Phillipps & Graves
Italy, 3 Stobbs, Wilson & Co.

Quicksilver—
Italy, 500 btls. L. & I. D. Jt. Co.

Rosin—
U. States, 500 brls. Dussek Bros. & Co.
,, 1,000 Prod. Brokers & Co
France, 14 Burrell & Co.

Saltpetre—
Germany, 70 cks. T. Merry & Son
E. Indies, 100 bgs. Lucas & Spencer's Wf.

Silica—
Germany, £100 A. Haacke & Co.

Sodium Acetate—
France, 16 pkgs. Johnson & Hooper

Hyposulphite—
100 pkgs. Beresford & Co.

180 pkgs. T. H. Lee
90 Foxwood Bros. & Co.
140 Leach & Co.
287 F. Rosenthal & Co.
40 Barrett, Tagant & Co.
1,087 Horne & Co.
350 Seaward Brs.
73 Phillipps & Graves
202 ,,
40 J. Barber & Co.
818 Little & Johnstone
800 Vokins & Co.

334 bgs. Beresford & Co.
100 Walbaum & Tosetti
32 cks. Furness, Withy & Co.

500 t. W. C. Bacon & Co.

Acid—
42 pkgs. B. & F. Wf Co., Ltd.
10 F. C. Devon & Co.

53 pkgs. J. Puddy & Co.

Brine—
6 brls W. Harrison & Co.
28 pkgs. Steinhoff, Sons & Co.
2 cs. L. & I. D. Jt. Co.
12 Hernu, Peron & Co.

1 pkge. Beck & Pollitzer
13 pkgs. Pinchin, Johnson & Co.
10 Blundell, Spence & Co.

Lead—
19 cks. J. Watt & Son
20 Burrell & Co.
20 N. J. Fenner & Co.
58 Colthurst & Harding
12 brls. Beharell & Son

Pulp—
1,093 pkgs. J. Dickinson & Co.
2,061 E. J. & W. Goldsmith
47 Henderson, Craig & Co.
1,334 Morrton Cox Bros.
2,125 ,,
500 Tough & Henderson
400 E. J. & W. Goldsmith
300 C. Christophersen & Co.

Side—
50 cks. Burrell & Co.
75 M. Ashby, Ld.

LIVERPOOL.

Week ending April 26th.

Barytes Ore—
400 sks. Kleinwort, Sons & Co.
271 sks. H R. Merton & Co.
366 Hainsworth, Watson

180 bgs. 44 cks.

Cereal—
1,119 bgs
500 P. Harrower
2,909
2,000

Cod Oil—
1,000 cs Ralli Brs.
2 brls. J. Thompson & Co.
6 J. J. Mack & Son
269 1 cs
10 cs. C. Burgess & Son

4 brls. Musson & Co.
4 3 cs. Electric Stain Co.

21 cs.
5

Epsom Sulphate—
1 brl.

Linseed Oil—
747 brls.
25
100

Cream of Tartar—
5 hds. 12 cks.

Dyestuffs—
Argols
Bordeaux, 36 cks.
Fustic
Colon, 204 ps. Widow Duranty & Son
Logwood
Marseilles, 1 bdl.
Philadelphia, 25 brls.
Savannah, 250 t.
Annatto Bay. 343
Orchella
Lisbon, 246 bgs Leech, Harrison & Co.
Saffron
Valencia. 1 cs.
Shumac
Barcelona, 100 bgs.
Palermo, 300 H. Rooke, Son, & Co.
,, 800 25 bls.
Turmeric
Bombay, 100 bgs.

Farina—
New York, 1,000 sks.

Glucose—
Philadelphia, 250 brls.
New York, 3 M. Woodward & Son
,, 6 11 pkgs.

Iron Sulphate—
Marseilles, 1 brl.

Limestone—
Antwerp, 2 crts. J. T. Fletcher & Co.

Manure—
Rouen, 1 bg. Co-op. W'sale Society, Ld.

Mica—
New York, 1 cs. Sutton & Co.

Nickel—
Havre, 4 cks. Cunard S. S. Co., Ld.

Nitrate—
Pisagua, 7,154 bgs.
Junin, 3,751 sks.

Ochre—
Bordeaux, 49 cks.
Alicante, 500 bgs.

Paint—
Boston, 26 cs. M. Nicol & Co.
,, 25

Paraffin Scale—
New York, 300 brls

Phosphates—
Ghent, 500 t. 1,000 bgs.

Phosphate Rock—
Pt. Royal, S.C., 1,700 t.

Potash—
Hamburg, 18 cks.

Pyrites—
Huelva, 200 t.
,, 2,475 Matheson & Co.

Rosin Oil—
Savannah, 3,496 brls

Rosin—
New York, 100 brls. R. Singlehurst & Co.

Salt—
Alicante, 50 bgs.

Saltpetre—
Rotterdam, 170 bgs.

Soap—
Marseilles, 75 bxs. 85 cs.
Leghorn, 20 Flinn, Main & Co.
,, 750 Weaver & Sterry
,, 200
Naples, 205 cs. P. Behrends

Sodium Bicarbonate—
Marseilles, 4 brls.

Starch—
Boston, 200 sks.
Antwerp, 630 cs J. T. Fletcher & Co.
Rotterdam, 40

Stearine—
New York, 28 hds. Co-op. W'sale Society, Ld.
,, 12
Antwerp, 39 bgs.

Sulphur—
Catania, 390 bgs. 267 cks.

Sulphur Ore—
Pomaron, 1,300 t.

Tallow—
New York, 60 tcs. 50 hds.
Philadelphia, 5 cs.

Tartar—
Bordeaux, 49 cks.

Tartaric Acid—
Marseilles, 1 ck.

Waste Salt—
Hamburg, 1,120 bgs.

White Lead—
Antwerp, 8 cks.
Rotterdam, 34

Wood Pulp—
Oporto, 200 bls. Ciama Wood Wood Pulp Co.

Zinc Oxide—
New York, 150 brls.
Antwerp, 50
Rotterdam, 90 cks.

MANCHESTER.

Week ending April 28th.

Acetic Acid—
Hamburg, 2 cs.
Antwerp, 40 blns

Alkali—
Hamburg, 1 ck.

Alum—
Rotterdam, 39 cks. Simpson, Howden & Co.

Alumina Sulphate—
Rotterdam, 95 cks. Simpson, Howden, & Co.
,, 67

Cadmium—
Hamburg. 1 cs.

Chemicals (*otherwise undescribed*)
Rotterdam, 8 cks Simpson, Howden, & Co.
Hamburg, 6 1 cs.

Colours—
Rotterdam, 14 cks. Simpson, Howden, & Co.
,, 16 cs. 43 41 bgs. 8 brls.
Antwerp, 6
Treport, 2 8

Cream of Tartar—
Rotterdam, 20 cks. Simpson, Howden, & Co.

Dyestuffs—
Alizarine
Rotterdam, 13 cks. Simpson, Howden, & Co
,, 17 brls.
Extracts
Treport, 11 cks.

Farina—
Rotterdam, 570 bgs. Simpson, Howden, & Co.
Hamburg, 100
Rotterdam, 952
Antwerp, 4

Limestone—
Antwerp, 4 cks.

Litharge—
Rotterdam, 4 cks.

Oxalic Acid—
Rotterdam, 17 cks.

Palm Oil—
Hamburg, 30 cks.

Potash—
Rotterdam, 5 cs.
Treport, 4 dms. 19 cks.

Sodium Nitrate—
Rotterdam. 4 cks Simpson, Howden, & Co.

Sodium Phosphate—
Rotterdam, 7 cks.

Starch—
Antwerp, 194 cs.

Tartar—
Bordeaux, 6 cks. J. & P. Hutchinson

Tartaric Acid—
Rotterdam, 20 kgs. 18 cks. Simpson, Howden, & Co

Tar Oil—
Antwerp, 26 cks.

Tin Perchloride—
Antwerp, 2 cks.

Ultramarine—
Rotterdam, 2 cks. Simpson, Howden, & Co.

Verdigris—
Bordeaux, 2 cks. J. & P. Hutchinson

Waste Salt—
Hamburg, 210 cks.

Wood Pulp—
Rotterdam, 157 rolls. 23 bls. 10 pkgs

Wood Spirit—
Hamburg, 1 dm.

Zinc Oxide—
Rotterdam 60 brls.

Zinc White—
Rotterdam, 20 cks.

HULL.

Week ending April 28th.

Acetic Acid—
Rotterdam, 9 blns. Hutchinson & Son

Acid—
Bari, 85 cks. Wilson Sons, & Co., Ld.

Asbestos—
Flushing, 1 bl Hutchinson & Son

Barytes—
Antwerp, 30 bgs 62 cks. Bailey & Leetham
Rotterdam, 48 Blundell, Spence, & Co.
,, 36 cks. H. T. Greaves
,, 60 bgs Storry, Smithson, & Co.
Bremen, 40 cks. Hanger, Watson & Harris
,, 46 Tudor & Sons
,, 103 bgs.
Rotterdam, 25 cks. Hanger, Watson & Harris

Cellulose—
Copenhagen, 63 bls.

Chemicals (*otherwise undes.*)
Stettin, 4 cks.
Bremen, 1 Veltmann & Co.
Dunkirk, 1 brl. 50 pks. Wilson, Sons, & Co., Ld.
Hamburg, 24 cks. ,,
Antwerp, 6 pks. ,,
,, 17 cks. W. & C. L. Ringrose

Colours—
New York, 60 brls.
Stettin, 16 cks. Wilson, Sons, & Co., Ld
Flushing, 39 cks 9 cs. Hutchinson & Son
Rotterdam, 7 cs. 4 44 brls. ,,
,, 14 57 W. & C. L. Ringrose
Bremen, 4 Veltmann & Co.
,, 1 J. Pyefinch & Co.
Hamburg, 10 Wilson, Sons, & Co., Ltd.
Antwerp, 41 A. Sanderson & Co.

Cryolite—
Copenhagen, 6 cks. Wilson Sons, & Co., Ltd.

Dextrine—
Hamburg, 11 bgs. Wilson, Sons, & Co., Ld.

Dyestuffs—
Alizarine
Rotterdam, 71 cks 2 cs W. & C. L. Ringrose
Cutch
Hamburg, 8 cs. Wilson, Sons, & Co., Ld.
Sumac
Trieste, 94 bgs. Wilson, Sons, & Co., Ld.
Palermo, 1,016 ,,
,, 1,500

Farina—
Stettin, 400 bgs.
Harlingen, 652
Ghent, 200 cs. Wilson. Sons, & Co., Ld.
Hamburg, 100 bgs. ,,

Glucose—
Stettin, 300 bgs.
Rotterdam, 50 Hutchinson & Son

Lime—
New York, 1,608 bgs. Wilson Sons, & Co., Ld.

Paint—
Trieste 108 dms. Wilson, Sons, & Co., Ld.
New York, 38 cs. ,,

Painters' Colours—
Rotterdam, 4 cks. Hutchinson & Son

Phosphate—
Antwerp, 510 bgs. C. Wilburn
Ghent, 2,121 203 t.

Pumice Stone—
Trieste, 5 cs. Wilson, Sons, & Co., Ld.
Messina, 16 ,,
Hamburg, 2 ,,
Pyrites—
Huelva, 1,106 t.
Saltpetre—
Antwerp, 136 bgs Wilson, Sons, & Co., Ld.
Soap—
Bari, 152 cs. Wilson, Sons, & Co., Ld.
,, 21
Soda—
Antwerp, 307 pks 5 brls Wilson, Sons, & Co., Ld.
Sodium Phosphate—
Rotterdam, 8 cks. Hutchinson & Son
Starch—
Ghent, 40 cs. Wilson, Sons, & Co., Ld.
Rotterdam, 220 Hutchinson & Son
Bremen, 940 Veltmann & Co.
Antwerp, 200 Raines & Co.
Stearine—
Rotterdam, 60 bls. Wilson, Sons, & Co., Ld.
Antwerp, 48 pks. ,,
Talc—
New York, 150 bgs. Wilson, Sons & Co., Ltd.
Tartar—
Rotterdam, 6 cks. Hutchinson & Son
Tartaric Acid—
Rotterdam, 6 cks. Hutchinson & Son
Ultramarine—
Rotterdam, 28 cs. Hanger, Watson, & Harris
Hamburg, 2 cks.
Varnish—
New York 5 brls Wilson, Sons, & Co., Ltd.
Amsterdam, 3 cks. Sissons Bros. & Co.
Waste Salt—
Hamburg, 377 bgs. Wilson, Sons, & Co., Ld.
,, 508
White Lead—
Cologne, 62 cks.
Rotterdam, 4 brls. 20 Hutchinson & Son
Wood Pulp—
Rotterdam, 39 bls. Hutchinson & Son
Helsingfors, 293 J. Good & Sons
,, 18 Furley & Co.
Hango, 174 ,,
Zinc Ashes—
Antwerp, 8 cks. Wilson, Sons, & Co., Ld.
Zinc Oxide—
Antwerp, 95 cks. Bailey & Leetham

GLASGOW.

Week ending May 3rd.

Acetate of Lime—
New York, 380 pkgs.
Acetic Acid—
Rouen, 21 cks.
Acid—
Rotterdam, 1 dmjhn.
Barium Sulphate—
Antwerp, 50 bgs 22 cks
Barytes—
Rotterdam, 66 cks. 12 pkgs.
Bone Meal—
Bombay, 3 000 bgs.
Carbonic Acid—
Rotterdam 15 tubes
Castor Oil—
Marseilles, 43 pkgs. 208 brls.
Antwerp, 29 cks.
Chemicals (*otherwise undescribed*)
Rotterdam, 4 cs.
Colours—
Rotterdam, 17 cs 14 cks. J. Rankine & Son
,, 30 pkgs.
Hamburg, 5 cks.
Cottonseed Oil—
New York, 50 brls.
Cream of Tartar—
Marseilles, 14 brls.
Dyestuffs—
Alizarine
Rotterdam, 27 cks, 3 cs. J. Rankine & Son
,, 130 pkgs.
Extracts
Fiume, 100 brls.
Marseilles, 25
Rouen, 15 cks.
Baltimore, 50 brls. M'Arthur, Scott & Co
,, 20 bxs. J. Pattison & Co.
,, 10 brls. J. Dawson & Co.
Madder
Rotterdam, 2 cks. J. Rankine & Son
Marseilles, 11 brls.
Myrabolams
Bombay, 2,220 bgs.
Sumac
Messina, 200 bgs. M'Arthur, Scott, & Co.
Dyestuffs (*otherwise undescribed*)
Baltimore, 1 bx. M'Arthur, Scott & Co.
Farina—
Antwerp, 10 bgs.
Hamburg, 100
Delfzyhl, 2,000
Glucose—
New York, 299 brls.
Gypsum—
Rouen, qty.
Iron Oxide—
Trieste, 26 cks. Ferguson & Reid
Linseed Oil—
Christiania, 3 brls.
Ochre—
Marseilles, 53 brls.
Rouen, 19 cks.
Paint—
New York, 2 brls.
Painters' Colours—
Antwerp, 6 cks.
Phosphate—
Antwerp, 1,000 bgs.
Phosphate of Lime—
Dunkirk, 1,015 bgs.
Potash—
Hamburg, 30 cks.
Rotterdam, 6
Amsterdam, 2
Potassium Carbonate—
Hamburg, 39 cks.
Pumice Stone—
Messina, 40 bgs. 64 cs.
Pyrites—
Huelva, 1,802 t. Tharsis Co.
Rosin—
Wilmington, 5,073 brls. L. & J. M'Lellan
New York, 1,400
Saltpetre—
Hamburg, 20 cks.
Soap—
Fiume, 102 cs.
Sodium Acetate—
Rouen, 11 cks.
Sodium Nitrate—
Taltal, 14,871 bgs. Thomson, Aikman & Co.
Starch—
Fiume, 20 bgs. Wm. Sterling
,, 50 J. Anderson & Co.
New York, 750 sks. 6 brls.
Antwerp, 150 cs.
Amsterdam, 20 bxs.
Sulphur—
Catania, 50 bgs.
Sulphur Ore—
Huelva, 1,731 t. Rio Tinto Co.
Talc—
Trieste, 100 bgs. P. M'Intosh & Sons
Tar—
New York, 420 brls.
Tartar—
Bordeaux. 7 cs.
Tartar Emetic—
Hamburg, 2 cs. 1 ck.
Waste Salt—
Hamburg, 350 cks.
White Lead—
Rotterdam, 22 cks, J. Rankine & Son
,, 19
Antwerp, 6
Wood Pulp—
Christiania, 255 bls.
Zinc Ashes—
Antwerp, 7 cks.
Zinc Oxide—
New York, 100 brls.
Rotterdam, 55 cks.
Antwerp, 50
Zinc Sulphate—
Hamburg, 20 cks.
Zinc White—
Rotterdam, 150 cks. J. Rankine & Son

TYNE.

Week ending April 28th.

Alum Earth—
Hamburg, 35 cks. Tyne S. S. Co.
Barytes—
Antwerp, 70 cks. Tyne S. S. Co.
Borax—
Antwerp, 8 brls. Tyne S. S. Co.
Carbolic Acid—
Rotterdam, 53 tbs. Tyne S. S. Co.
Colours—
Rotterdam, 1 brl. Tyne S. S. Co.
Limestone—
Antwerp, 6 cs. Tyne S. S. Co.
Paint—
Hamburg, 32 cks. Tyne S. S. Co.
Saltpetre—
Hamburg, 23 cks. Tyne S. S. Co.
Sodium Nitrate—
Pisagua, 11,179 bgs.
Starch—
Rotterdam, 220 cs Tyne S. S. Co.
Antwerp, 61 ,,
Stearine—
Antwerp, 7 bgs. Tyne S. S. Co.
Ultramarine—
Hamburg, 1 ck. Tyne S. S. Co.
White Lead—
Antwerp, 12 cks. Tyne S. S. Co.
Zinc Oxide—
Antwerp, 25 brls. Tyne S. S. Co.

GOOLE.

Week ending April 25th.

Alkali—
Calais, 16 cks.
Alizarine—
Rotterdam, 46 pkgs.
Anthracene—
Boulogne, 17 cks.
Dyestuffs—
Extracts
Rouen, 50 cks.
Logwood
Jamaica, 357 t.
Hayti, 457
Dyestuffs (*otherwise undescribed*)
Boulogne, 58 cks. 3 cs. 5 pkgs.
Ghent, 12 1
Farina—
Hamburg, 1,045 bgs
Delfszyhl, 130
Potash—
Calais, 25 dms.
Dunkirk, 34 48 cks.
Sulphur Ore—
Seville, 1,070 t.
Waste Salt—
Hamburg, 279 cks.
Zinc Oxide—
Antwerp, 65 brls.

GRIMSBY.

Week ending April 28th.

Albumen—
Hamburg, 1 ck.
Caoutchouc—
Rotterdam, 1 cs.
Chemicals (*otherwise undescribed*)
Hamburg, 2 cks. 10 cs.
Dyestuffs (*otherwise undescribed*)
Dieppe, 25 cks.
Farina—
Hamburg, 6 cks. 20 bgs.

EXPORTS OF CHEMICAL PRODUCTS

OF

THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending May 2nd.

Acids—
Cape Town, 4 kgs. £18
Algoa Bay, 14 cs. 10
Alkali—
Sydney, 6 c. £5
Shanghai, 9 7
Aluminous Cake—
Calcutta, 19 t. 7 c. £65
Ammonia (Liquid)—
Algoa Bay, 16 cs £23
Ammonia Salts—
Philadelphia, 20 cks. £130
Ammonium Carbonate—
Wellington, 5 cs. £13
Sydney, 15 29
B. Ayres, 1 t. 38
St. Petersburg, 30 1,060
Rangoon, 1 35
Ammonium Chloride—
Sydney, 12 cks. £83
Ghent, 2 12
Salonica, 2 t. 6 c. 80
Ammonium Sulphate—
Berbice, 20 t. 2 c. £285
Amsterdam, 100 1,405
Arsenic—
Amsterdam, 1 t. 2 c. £17
Sydney, 4 61
B. Ayres, 2 30
Wellington, 1 15
Bisulphite of Potash—
Oporto, 5 c. £30
Bleaching Powder—
B. Ayres, 11 c. £5
Boracic Acid—
Wellington, 8 c. £11
Algoa Bay, 5 cks. 19
Melbourne, 7 16
Borax—
Adelaide, 1 t. 4 c. £6
Hamburg, 6 cks.
Copenhagen, 2 19 145
Veile, 1 9
Calcium Chloride—
Canterbury, 10 t. 3 c. £29
Calcium Phosphide—
Copenhagen, 2 cs. £13

m Sulphate—
tts, 11 t. 18 c. £45
ic Acid –
bo, 17 c. £24
rp, 10 cns. 11
lius, 150 dms. 240
ne, 100 43
2 cs. 9
a Bisulphide—
rk, 26 dms. £75
e Soda—
ndon, 5 c. £9
9 t. 4 107
ntle, 6 14
eals *(otherwise undescribed)*
ıy, 5 c. £10
o, 5 t. 5 cs. 206
Bay, 10 cks 15
und, 6 pt.-cs. 1 cs. 1 41
de, 2 jars 2 54
Acid—
Town, 1 c. £10
es, 4 28
Bay, 1 ck. 8
eal, 1 t. 14 1 cs. 236
urg, 2 300
dam, 8 57
ıy, 3 24
ls, 13 146
1 ck 37
2 15
, 15 125
ntinople, 6 59
rdam, 2 68
roducts—
arine
, 25 cks. £355
line
hai. 15 cs £87
hracene
dam, 135 cks. £700
zol
urg, 48 cks. £110
l tar Dyes
, 16 pkgs. £266
osote
ne, 2 drs. £13
osote Oil
ad, 20 brls. £12
htha
1 dm. £17
hthaline
, 116 cks. £167
rp, 17 31
hagen, 10 18
illes, 83 93
urg, 322 366
h
25 brls. £7
rt, 50 t. 71
York, 500 bgs. 90
elphia, 500 99
as 2 5
, 4 cks. 6
idine
urg, 25 cks. £177
gton, 10 dms. 4 brls £8
, 50 25
de, 200 35
es, 240 39
burg, 50 cks. 33
dorf, 1 8
ichstadt, 846 480
Bay, 75 15
30 6
Oil
burg, 240 cks. £172
ne, 90 runs. 87
Salts
urg, 1 ck. £6
ol
urg, 18 drs. £160
dam, 170 pns. 170
ras—
as, 8 t. 9 c. £14
Sulphate—
de, 10 t. £146
, 21 17 c 352
Alegre, 2 3 31
, 5 72
aux, 12 10 200
2 15
ania, 5 75
, 72 10 1 160
of Tartar—
und, 1 t. 10 c. £96
urne, 10 32
de, 2 146
ndon, 2 8
y, 1 4 80
in, 5 17
ntle, 5 20

Disinfectants—
Wellington, 1 t. 1 c. 13 cs. £49
Auckland, 1 6 35
Natal, 19 pkgs. 38
Calcutta, 2 14 171
Cape Town, 2 10
Amsterdam, 2 c. 7
Bombay, 10 10 dms. 1 ck. 143
Gibraltar, 6 c. 7
Barbadoes, 12 cks. 84
Madras, 50 16
Sydney, 10 cs. 24
Melbourne, 10 28
Glycerine and Acids—
Launceston, 4 pkgs. £17
Guano—
Trinidad, 15 t. £169
Lead Acetate—
B. Ayres, 12 c. £17
Manure—
Mauritius, 17 t. £240
Jersey, 1 7
Guernsey, 5 2 c. 52
Cherbourg, 59 2 143
Charente, 21 10 172
Jamaica, 30 2 320
Reunion, 1 19 12
Rotterdam, 15 2 124
St. Lucia, 65 650
Natal 10 50
Barbadoes, 152 6 1,500
Madras, 2 6 30
Morlaix, 100 1 1,000
Treport, 19 19 120
Demerara, 100 1,100
St. Kitts, 13 18 160
Metallic Sodium—
Hamburg, 10 c. £162
Muriatic Acid—
Oporto, 10 cbys. £6
Oxalic Acid—
Dunedin, 14 c. £23
Phosphates –
Demerara, 50 t. £130
Phosphate of Lime—
Trinidad, 53 t. £159
Phosphoric Acid—
Mauritius, 75 t. 3 c. £1,146
Phosphorus—
Wellington, 16 c. £105
Potash Crystals—
Melbourne, 3 cs. £40
Philadelphia, 4 cks. 20
Oporto, 2 20
Potassium Bichromate—
Bombay, 6 c. £14
Potassium Cyanide—
Shanghai, 5 cs. £60
Potassium Iodide—
Algoa Bay, 2 cs. £58
Saltcake—
Antwerp, 150 t. £263
Saltpetre—
Melbourne, 2 t. £47
Boston, 4 9 c. 105
Lisbon, 3 13 79
Oporto, 2 42
Sydney, 1 10 35
Adelaide 10 11
Algoa Bay, 10 cs. 6
Sheep Dip—
Melbourne, 5 t. 18 c. £110
Calcutta, 150 drs. 18
E. London, 400 81
Cape Town, 24 14
B. Ayres, 10 t. 324
Natal, 2 80
Auckland, 20 cs. 60
Soda—
Chinde, 8 c. £7
Natal, 2 t. 10 7
Gibraltar, 1 7
Soda Crystals—
Fremantle, 5 t. 2 c £15
Sydney, 11 7 25
Natal, 12 4 28
Sodium Bicarbonate
Wellington, 6 c £6
Auckland, 1 t. 2 15
Pt. Elizabeth, 6 5
Sodium Bisulphate—
Melbourne, 5 cks. £7
Sodium Hyposulphite—
Melbourne, 2 t. 5 c. £13
Spent Oxide—
Dunkirk, 64 t. 10 c. £65
Sulphur—
Lisbon, 100 brls. £71
E. London, 65 pkgs. 32
Oporto, 28 20
Wellington, 5 t. 32
Natal, 1 9
Mauritius, 167 cks. 120
Cape Town, 10 8 c 119
Sulphuric Acid—
Chinde, 16 c. £16
Cape Town, 20 cbys. 14
Natal, 10 8
Superphosphate—
Mauritius, 106 t 13 c. £427
Tartar—
Lyttelton, 2 c. £10
Tartaric Acid—
Auckland, 10 c. £51
Melbourne, 5 24
Adelaide, 3 t 295
Sydney, 3 10 340
Cape Town, 1 6
E London, 2 11
Hamburg, 11 54
B. Ayres, 9 pkgs. 139
Bombay, 4 19
Fremantle, 5 30
Gibraltar, 1 6
Oporto, 10 53

LIVERPOOL.

Week ending May and.

Acetic Acid—
Lisbon, 2 t. 1 c. 1 q. £27
Albumen—
Magog, 10 cs.
Alkali—
Calcutta, 5 t. 13 c. 1 q. £22
Alum—
London, Ont., 2 t. 10 c. £12
Syra, 2 3 11
Quebec 8 7 25
Montreal, 28 1 137
Galatz, 6 6 45
Oporto, 2 14
Piræus, 4 10 31
Bourgas, 6 18 49
Ammonia (Liquid)—
Zarate, 2 t £27
Ammonium Carbonate –
Vigo, 12 c. £21
Bilbao, 1 t. 10 52
Ammonium Chloride—
Seville, 9 c. 3 q. £18
Bombay, 3 t. 15 133
Sydney, 2 2 5
Trieste, 1 3 38
Patras, 4 3 9
Piræus, 4 3 9
Ammonium Sulphate—
Samarang, 60 t. 12 c. £947
Sourabaya, 185 2 3 q. 2,912
Pekalongan, 39 14 2 655
Penang, 2 30
Valencia, 96 18 3 1,277
Antwerp, 45 596
Las Palmas, 73 4 1 1,030
Bleaching Powder—
Bombay, 4 cks. 8 cs.
Boston, 401
E. London, 14 brls.
Melbourne, 145 10
Naples, 88
New York, 165
Philadelphia, 72
Toronto, 5
Copenhagen, 5
Madrid, 28
Montreal, 18
Vigo, 7
Boracic Acid—
Montreal, 4 t. 12 c. 2 q £141
Borate of Lime—
Antwerp, 23 t. 8 c. £240
Borax—
Melbourne, 1 t. 3 q. £31
B. Ayres, 2 9 c. 68
Hamburg, 9 12
Rotterdam, 1 12 1 43
Ibrail, 10 3 1 274
Galatz, 1 3 30
Quebec, 7 16 176
Calcium Chloride—
Odessa, 5 t. 1 c. £12
Carbolic Acid—
New York, 1 t. £54
Constantinople, 5 c. 10
Barcelona, 8 2 q. 20
Calcutta, 1 13 6
Yokohama, 10 26
New Orleans, 10 6 3 453
Hiogo, 10 26
Carbon Bisulphide—
Ceara, 2 c. 1 q. £7
Caustic Potash—
New York, 2 t. 13 c. £65
Melbourne, 2 1 54
Montreal, 10 13
Caustic Soda—
Adelaide, 252 dms.
Barcelona, 220
Genoa, 123
Gefle, 10 brls
Hiogo, 225
Ibrail, 52
Jaffa, 50
La Guayra, 10
Leghorn, 86
Maracaibo, 10
Marseilles, 20
Melbourne, 227
New York, 235 29
Oporto, 6
Pernambuco, 55
Rangoon, 14
Sydney, 30 8 pkgs.
Tampico, 220
Trieste. 30
Valencia, 40
Alexandria, 16
Algoa Bay, 2 cs. 6
Bahia, 10
Baltimore, 245
Bombay, 14
Boston 180
Cape Town 3 cs.
Carupano, 10
Ceara, 10
Dunedin, 28 6 3 bxs.
Guaymas, 12
Hamburg, 48
Havana, 40
Iloilo. 16
M. Video, 150
Newcastle, 30
New Orleans, 50
Odessa, 100
Paysandu, 100
Rio Grande do Sul, 25 dms.
Rotterdam, 98 dms.
Samarang, 14
San Francisco, 35
Seville, 150
Sourabaya, 26
Valparaiso, 50
Volo, 5
Winnipeg, 35
Chemicals *(otherwise undescribed)*
Boston, 15 t. 1 c. £156
Gd. Canary, 1 2 q. 6
Montreal, 1 5
Rio de Janeiro, 2 cks. 42
Gijon 4 t. 102
Calcutta, 6 15 240
Ancona, 10 18
Mersyne, 10 18
Bombay 3 15 138
Santos, 4 6
Genoa, 1 5 44
China Clay—
Boston, 1,159 t. 19 c.
New York, 100
Bombay, 25
Lisbon, 4 2
Citrochloric Acid—
Lisbon, 4 c. £25
Coal Products—
Aniline Colours
Montreal, 3 cks. 1 cs. 3 pkgs. 1 dm.
Aniline Dyes
Santos 1 kg.
Anthracene
Rotterdam, 22 cks.
Creosote Oil
B. Ayres, 33 brls.
Pitch
Antwerp, 70 t.
Galatz, 45 brls.
Sierra Leone, 10
Tar
Galatz, 215 brls.
Vigo, 10
Coal Products *(otherwise undes.)*
New York, 24 cks. 6 brls. 50 cs. 1 kg.
Copperas—
Las Palmas, 9 t. 1 q £17
Copper Sulphate—
Boston, 6 t. 10 c. £95
Montreal, 3 4 47
Spain and Italy, 59 1 3 q. 866
Oporto, 19 1 2 295
Leghorn, 10 10 2 162
Genoa, 26 11 393
Venice, 5 3 } 117
Fiume, 3 1 2 }
Lisbon, 26 18 406
Ancona, 40 16 3 608

Bari. 23 17 2 348
Venice, 19 11 286
Naples. 15 4 2 226
Brindisi, 2 6 2 32
Calcutta, 5 79
Bordeaux, 232 9 3,910
Vigo, 5 1 2 81
Melbourne, 10 159
M. Video, 6 13 1 103
St. John's, N F., 15 1 12
Algiers 10 1 1 160

Disinfectants—
Bombay, 5 t. 11 c. £36
Malta, 18 24

Dried Blood—
Las Palmas, 20 t. 8 c. 2 q. £194

Farina—
Boston, 3 cks.

Guano—
Penang. 7 t. 10 c. £95

Gypsum—
Lisbon, 5 t. 1 c. £13
New York, 36 4 134

Iron Oxide—
B. Ayres, 1 t. 9 c. £15

Lime—
Brass, 2 t. 2 c.

Litharge—
Santos, 1 ck.

Magnesia—
Barcelona, 110 cs.

Magnesium Sulphate—
Piræus 2 t. 2 q. £8
Boston, 75 kgs. 32 brls.
Demerara, 20
Halifax, 20 25
Rio de Janeiro 50

Manganese Ore—
Hamburg, 6 t.

Manure—
Havre, 50 t. 1 c. 1 q. £361
Penang, 15 160
La Guayra, 10 11
St. John's, Nfld , 2 6
Malaga, 5 38

Metallic Sodium—
Rotterdam, 3 t. 19 c. 3 q. £795

Nitrate of Iron—
Santos, 10 c 2 q. £20

Ochre—
Pt. Natal, 20 kgs.
Valparaiso, 40 brls.

Paint—
Caibarien, 8 cks.
Callao, 8 dms 12 kgs
Cartagena, N.G., 2
Colombo, 18
Constantinople, 25
Ferrol, 2 67
Havana, 1
Hiogo, 60
Lagos, 50
Mexico, 11
Rangoon, 6
St. John's, N'fd., 5 1 cs. 25
San Juan, 1 200
Valparaiso, 6 dms.
Vera Cruz, 1 ck 2
Curacao, 2 cks.
Gaboon, 5 dms.
Hong Kong, 6 5
Las Palmas, 1 145
Lisbon 25 brls.
Malta, 80
Progresso, 2 cs.
Sulina 4

Painters' Colours—
Accra, 20 kgs.
Alexandria, 415 4 cs.
Antwerp, 41 10 dms.
Baltimore, 126 cks.
Belize, 87
Bombay, 287 6
Cape Town, 2 1
Cartagena, N.G , 100
Colon, 26
Galatz, 220
Lisbon, 2brls. 12
Maracaibo, 2
Menada, 6
M. Video, 7 1
N Orleans, 200
Pernambuco, 115 1
Rio de Janeiro, 12
Salonica, 2
Santiago de Cuba, 2
Valparaiso, 354 157 446
Bahia, 132 31 27
Buenaventura, 5
B. Ayres, 40 112 19
Lisbon, 10 dms. 10 3
Maceio, 30 cks.
Montreal, 30 31
Rio Grande do Sul, 20 kgs.
Sierra Leone, 3

Paraffin Wax—
Bari, 3 cs. 3 bgs.
Para, 30
Trieste, 3

Phosphorus—
Trinidad, 2 cs. £20
B. Ayres, 4 44
Santiago de Cuba, 2 29
Kingston. Ja., 1 13
Yokohama, 30 325
Hiogo, 15 188
Shanghai, 25 250
Kobe, 6 60

Potash—
Rotterdam, 7 c. £10

Potassium Bichromate—
Bushire, 5 c. 3 q. £14
Syra, 5 15

Potassium Chlorate—
Genoa, 4 t. 10 c. £259
Rotterdam, 7 6 425
New York, 12 695
Philadelphia, 2 10 160
Bilbao. 1 67
Calcutta, 1 13 112
Hiogo, 2 10 146
Santiago de Cuba, 1 63

Potassium Nitrate—
Penang, 2 t. £40

Potassium Sulphate—
San Francisco, 50 t. £470

Salicylic Acid—
Belize, 2 c. £58

Salt—
Accra, 8 t. 15 c.
Amsterdam, 100
Antwerp, 327
Boston, 122 14
Brass, 8
Calcutta, 10,521
Cameroons, 45 19
Ghent, 110
Gr. Bassa, 5
Halifax, 600
Hamburg, 110 7
Iceland, 375
Lagos, 100
Landana, 18 5
Mandigi, 19
Montreal, 1,240
Newport News 497 5
New York, 152
Rotterdam, 125
St. Petersburg, 700
Salt Pond, 25
Sydney, 100
Trinidad, 58 13
Tromsve, 500
Wellington, 20
Akassa, 400
Cabenda, 16 1
Cape Town, 25
Copenhagen, 1,100
Loango, 40 3
Newcastle, 50
Old Calabar, 40
Quebec, 797
Rio del Rey, 30
Rio de Janeiro, 1 1
St. John's, Nfld ,500
Shediac, N.B., 308 11
Trangesund, 600
Ukaka, 9 7

Salt Cake—
New York, 15 t. 13 c. £16
Baltimore, 20 1 26
Antwerp, 100 99

Sheep Dip—
Curacao, 2 c. 2 q. £4
Algoa Bay, 9 15

Soap—
Accra. 477 bxs. 5 cs.
Akassa 51 80 dms.
Algoa Bay, 2,402 75
Amboina, 1,500
Anamaboe, 50
Antigua, 40
Arecibo, 1
Axim, 60
Baltimore, 1
Banoka, 30
Barcelona, 1
Cabenda, 120 3
Calcutta, 35 250 bdls
Callao, 29
Cameroons. 50
C. C. Castle, 287
Cape Town, 3,610
Colombo, 18
Curacao, 102
Demerara, 1,000
Durban, 250
E. London, 564 19
Gaboon, 100
Ghent, 60
Gibraltar, 500
Guayaquil, 1
Havre, 2
Iquitos, 200
Lagos, 164
Lanzarote, 10
Las Palmas, 912
Macassar, 500
Malta, 5 30
Melila, 125
Menada, 1,000
Npongwe, 60
Old Calabar, 200 8
Para, 1
Parnahyba, 80
Pedro, 112
Pt. Elizabeth, 375 15
Pt. Natal, 795
St. John's, Nfld ,824
St. Lucia, W.I ,261
Salt Pond, 115
Santa Cruz, 120
Santos, 1
Shanghai, 1,700
Sierra Leone, 160 10
Singapore, 2,650 15
Sourabaya, 3,000
Teneriffe, 12
Trinidad, 700
Victoria, W.C.A., 40
Warri, 250
Yokohama, 9
Barbadoes, 800
Barranquilla, 8
Bombay, 500
Boston, 1
Brass, 250
Constantinople, 28
Drewin, 20
Gr. Bassam, 75
Kurrachee, 5
Lausanne, 220
Maceio, 20
Opobo, 100
Rangoon, 500
Rotterdam. 104
San Fernando, 400
Sapelli, 300
Toronto, 850
Valparaiso, 30

Soda—
Yokohama, 210 cks.

Soda Alkali—
Barcelona, 50 brls.
Galatz, 46
Odessa, 100
Seville, 40

Soda Ash—
Adelaide, 86 cks.
Algoa Bay, 20 kgs.
Bahia, 5 10 brls.
Boston, 2,488 bgs. 123 237 tcs
Calcutta, 25
East St. Louis, 38
Genoa, 21 60 bgs.
Ghent, 167
Jaffa, 25
Johannesburg, 30
Kobe, 110
Leghorn, 40
Melbourne, 9 58
New York, 194 116 tcs. 5,942 bgs.
Para, 5 brls.
Philapelphia. 242 161 2,888 bgs.
Puerto Cabello 34 4 dms.
Smyrna, 50
Sourabaya, 25
Sydney, 176
Baltimore, 70 194 tcs. 2,830
Callao, 48
Ceara, 6 brls.
Copenhagen, 17
Hamburg, 35 25
M. Video, 25
Montreal, 14
Oporto, 10 10
Paysandu, 150
Rio de Janeiro, 25 450
Rotterdam, 250
Syra, 250
Valleyfield, 240

Soda Crystals—
Boston, 196 brls.
Constantinople, 50
Malta, 50
New York, 530
Palermo, 50
Philadelphia, 280 2,000 bgs.
St. John, N.B., 20 kgs.
Sourabaya, 200
Barcelona, 12 cks.
B. Aryes, 10
Cornwall, Ont., 20
Montreal, 142
Quebec, 150
St. Catherine's, 65

Soda Salt—
Boston, 15 cks.
Montreal, 47

Sodium Acetate—
Naples, 5 cks.

Sodium Arseniate—
Boston, 10 cks.

Sodium Biborate—
Havre, 60 kgs 135 c
Montreal, 102 brls.
Yokohama, 50

Sodium Bicarbonate—
Bombay, 40 kgs.
Cape Town, 20
E London, 20 2 cks.
Hamburg, 18
Melbourne, 250 8 274 d
Piræus, 3
St. John, N.B., 100
Smyrna, 20
Syra, 5
Aalborg, 4
Barcelona, 100
Bordeaux, 4 23 b
Calcutta, 200
Hamilton, 100
London Ont., 250
Mexico, 20
Montreal, 225
Nantes, 24 5 55
Odense, 5
Quebec, 150
Rangoon, 30
Santos, 4
Sydney, 100

Sodium Bichromate—
Genoa, 28 cks.

Sodium Chlorate—
Genoa, 10 kgs.
Hamburg, 20 10 brls.
Lisbon, 1
Rotterdam, 13

Sodium Phosphate—
Santos, 2 cks.

Sodium Silicate—
Adelaide, 20 cks. 7 brls.
Bilbao, 16
Bombay, 28
Havre, 4
Oporto, 20
Salonica, 15
San Sebastian, 48
Seville, 10
Singapore, 6
Talcahuano, 25
Wellington, 20
Zante, 20
Lisbon, 16
Melbourne, 38
Shallis, 5
Shanghai, 16

Sodium Sulphate—
Montreal, 67 cks.

Spent Oxide—
Antwerp, 10 t.

Strontia—
Stettin, 49 t. 16 c. £

Sulphur—
Montreal, 25 t. 1 c.
Boston, 200 2

Sulphuric Acid—
La Guayra, 6 cs.

Superphosphate—
Arucas, 4 t.
Nantes, 89 6 c

Turpentine—
Cartagena, N.G., 20 dms.

Varnish—
Antwerp, 6 btls.
Barcelona, 2 cks. 2 dms.
Callao, 12
Cape Town, 1
Iquique, 1 cs.
Lisbon, 2
Madras, 5
Melbourne, 4
Mexico, 1
Cabenda, 15 brls.
St. John's, Nfld., 2

Verdigris—
Melbourne 2 c. 39

White Lead—
Galatz, 2 cks.
Vigo, 4

Whiting—
Valparaiso, 100 brls.

Zinc Chloride—
Bombay, 3 t. 11 c.

NCHESTER.

ek ending May 3rd.

ium Carbonate—
agen, 7 cks.

c Acid—
o, 74 cks.
5 117 dms.

als (*otherwise undescribed*)
am, 15 cks.

—
am, 3 cs. 4 cks

s—
10 cks.

—
Janeiro, 7 cks.

e—
am, 12 cks

—
am, 1 ck.

ts—
am, 28 cks

HULL.

ek ending April 28th.

—
13 cks.

ium Sulphate—
p, 993 bgs.
dam, 420
242

cene—
dorf, 51 cks.

—
rg, 16 cks.

ing Powder—
gfors, 12 cks.
77

—
dorf, 20 cks.

ic Acid—
dorf, 81 cks.

e Soda—
gfors, 13 cks
30 dms.

cals (*otherwise undescribed*)
rp, 3 cs
rdam, 20 pkgs.
iania, 20 pks. 4 cs. 7 cks.
hagen, 4 3
nburg, 5 pkgs. 35 8
gfors, 1 bar. 6 3 shts. 22
urg, 2 11 cs. 2
120 pks.
oping, 10
50 11
dam, 200 10 cs. 2
, 9 pks. 1

seed Oil—
rp, 501 c.
ne, 727
nburg, 30
urg, 427
sberg. 35
oping, 200
rt, 170
dam, 1,067
n, 71
ngen, 398

ote—
hagen, 40 cks.

uffs (*otherwise undescribed*)
ing, 1 ck.
, 14 cks 2 cs.
n, 4

ed Oil—
erp, 10 c.
en, 104
n, 80
tiania, 1,004
tiansand, 17
hagen, 52
theim, 228
ngfors, 293
burg, 302
rdam, 67

al White—
n, 50 bls.

tha—
hagen, 3 cks.

thaline—
50 bls.

l—
, 20 cks.

—
gsberg, 4 cks.

—
hagen, 1 ck.

Painters' Colours—

Antwerp,	56 cks.	2 cs.	1 dm.
Amsterdam,	3		
Bergen,			130 pks.
Christiania,	4 dms.	4	128 pkgs
Cologne,	3		
Copenhagen,	8		
Dunkirk,	5		
Drontheim,	32	2	52 dms.
Ghent,	10		
Gothenburg,		1	5 pkgs.
Helsingfors,	11	1	18 dms.
Hamburg,	29		
Reval,	20		
Rotterdam,	5		
Stettin.	20		

Pitch—

Antwerp,	256 t.	
Dunkirk,	154	

Slag—

Abo.	222 t.	
Stettin,	276	

Soap—

Amsterdam,	100 cs.	
Copenhagen,	10	
Reval,		1 ck.
Stavanger,	1	

Tallow—

Gothenburg,	19 cks.	

Tar—

Amsterdam,	8 cks.	
Bremen,	50	
Bergen,	3	
Christiania,	11	
Copenhagen,	33	
Dunkirk,	25	
Helsingfors,	50	
Stettin,	9	
Zelzatt,	230 brls.	qty.

Turpentine—

Drontheim,	1 ck.	

Varnish—

Antwerp,	3 cs.		
Amsterdam,	1	2 dms.	
Christiania,	2 cks.		
Copenhagen,	4	4 bls.	1 cs.
Ghent,	4		2
Gothenburg,	3 dms.		10
Helsingfors,			22
Hamburg,			1

Whiting—

Antwerp,	20 cks.	

GLASGOW.

Week ending May 3rd.

Ammonium Chloride—

Italy,	2 t.	8¾ c.	£58

Ammonium Sulphate—

Spain,	127 t.	19 c	£1,766
Trinidad,	80	15	1,149
Demerara,	8	3¾	115

Bleaching Powder—

Melbourne	17 t.		£181
Philadelphia,	10	9¾ c.	90

Boracic Acid—

Rouen,	2 t.	3¾ c.	£78

Coal Products—

Creosote Oil			
Christiania,	25 brls.		£11
Naphtha			
Melbourne,		16 c.	£20
Sydney,	16 t.	¾	222
Pitch			
New York,	99 t.	14 c.	£150
Quebec,	34	5	64
Odessa,	181	6	392
Caen.	460		
Danzig	113		
Tar			
Odessa,	116 t.	2½ c.	£237
Riga,	300 brls.		180

Coal Tar Products (*otherwise undescribed*)—

Rotterdam,	23 dms.		£250

Copperas—

Montreal,	33 t.	7 c.	£59

Dyestuffs—

Extracts			
Montreal,	7 t.	12¾ c.	£231
Quebec,	7	10¾	325
Melbourne	1	9¾	75
Fustic Extract			
Montreal,	3 t.	12 c.	£173
Logwood			
Montreal,	8 t.	11¾ c.	£58
Spain,	5	6¾	45
Melbourne	6	19¼	84

Dyestuffs—

Patent Indigo			
Melbourne,	1 t.	3¼ c.	£45

Iodine—

Hamburg,	12 cks.		£4,430

Lead Acetate—

Bombay,	7 t.	5 c.	£94

Linseed Oil—

Quebec,	7 t.	15¾ c	£156
Melbourne,	3	6¾	82
Brazil,	3	10¾	80
Demerara,	2	1¾	41

Litharge—

Bombay,	1 t.	17¾ c.	£24

Magnesium Sulphate—

Montreal,	42 t		£135
Brazil	11	14½ c.	£50

Manure—

Spain,	327 t.	6 c.	£2,786
Trinidad,	164		1,328

Nitrate of Lead—

Montreal.	2 t.	9 c.	£40

Oxalate of Lime—

Demerara,	15½ c.		£24

Paint—

St. John's, N'fd	7 t.	3 c.	£130
Adelaide,	1	14½	56

Painters' Colours—

Brazil,	4 t.	3 c.	£49
Demerara,	6	11	114

Paraffin Wax—

Italy,	1 t.	14 c.	£25
Austro-Hungary,	54	2½	1,265
Constantinople,	4	10	67
Antwerp,	9	5½	225
Riga,	192 bgs.		337
Odessa,	84 t.	13¾	1,782

Potassium Bichromate—

Italy,	4 t.	6 c.	£168
Bombay,	3	1¾	116
Spain,	4	17	193
Melbourne,	3	8¾	173
Rouen	16	4¾	622
Antwerp,	2	1½	96

Rosin Oil—

Stockholm,	5 brls.		£17. 10s

Salt—

Mauritius,	300 t.		£281

Sheep Dip—

Sydney,	8 t.	10 c.	£230

Slag—

Amsterdam,	317 t.		£110
Rotterdam,	299		104

Soap—

Montreal,	2 t.	5¾ c.	£25
Chili,	1	1½	21

Sodium Bichromate—

Montreal,	5 t.	7 c.	£193
Bombay,	2	7½	73
Spain,	11	1½	363
Antwerp,	3	4½	100

Sodium Phosphate—

Boston,	2 t.	10 c.	£28

Sulphuric Acid—

Straits,	3 t.	3 c.	£27
Mauritius,	3	7½	27

Tallow—

Stockholm,	2 t.		£49

White Lead—

Halifax,	10 t.	17 c.	£109

TYNE.

Week ending April 28th.

Alkali—

Antwerp,	5 t.	10 c.
Riga,	5	1
Christiania,	24	18

Alum—

Oporto,	10 t.	16 c.

Ammonium Sulphate—

Valencia,	25 t.	

Antimony—

Antwerp,	6 t.	
Hamburg,	2	10 c.
Montreal,	10	
Quebec,		10

Barium Binoxide—

Hamburg,	1 t.	3 c.
Dunkirk,	15	9

Barium Sulphate—

Valencia,	5 t.	7 c.

Barytes—

Hamburg,	102 t.	10 c.

Bleaching Powder—

Oporto,	17 t.	1 c.
Antwerp,	41	4
Riga,	39	1
Hamburg,	54	8
Horsens,	1	9
Rotterdam,	69	12
Copenhagen,	62	14
Newfairwater,	2	3
Danzig,	43	
Drontheim,	10	2

Castor Oil—

Bergen,		17 c.

Caustic Soda—

Oporto,	4 t.	18 c.
Antwerp,	11	3
Riga,	15	3
Hamburg,	23	10
Montreal,	56	8
Copenhagen,	7	4
Stockholm,	4	18

Chemicals (*otherwise undescribed*)

Antofagasta,	3 t.	4 c.

Litharge—

Antwerp,		12 c.
Hamburg,	29 t.	18
Montreal,	25	3

Magnesia—

Hamburg,		8 c.

Manure—

Christiania,	39 t.	7 c.
Valencia,	120	12
Drontheim,	12	18

Naphthaline—

Riga,	26 t.	4 c.

Oxalic Acid—

Horsens,		6 c.
Copenhagen,		13

Paint—

Arendal,		3 c.

Slag—

Rotterdam,	166 t.	

Soda—

Hamburg,	2 t.	3 c.
Montreal.	173	11
Alexandria,	5	10
Odense,	10	9
Rotterdam,	12	17
Gothenburg,	10	4

Soda Ash—

Antwerp,	10 t.	4 c.
Rotterdam,	1	6
Lisbon,	12	3
Gefle,	10	2
Gothenburg,	18	11

Soda Crystals—

Oporto,	18 t.	4 c.

Sodium Hyposulphite—

Hamburg,	29 t.	19 c.
Odense,	5	6
Copenhagen,	1	1

Sodium Sulphate—

Bergen,	10 t.	

Sulphate of Lime—

Oporto,	2 t.	4 c.

Sulphur—

Antwerp,	5 t.	
Christiania,	50	
Gothenburg,	58	

Superphosphate—

Valencia,	50 t.	

White Lead—

Oporto,	2 t.	3 c.
Montreal.	72	
Copenhagen,	4	9
Stockholm,	10	7

GOOLE.

Week ending April 25th.

Chemicals (*otherwise undescribed*)

Antwerp,	1 ck.

Coal Products—

Pitch		
Antwerp,	203 t.	
Dunkirk,	300	

Coal Products (*otherwise undes.*)—

Boulogne,	2 cks. 2 cs.
Dunkirk,	26
Hamburg,	17

Dyestuffs (*otherwise undescribed*)

Hamburg,	26 cks.

Manure—

Hamburg,	507 bgs
Rotterdam,	184

GRIMSBY.

Week ending April 28th.

Chemicals (*otherwise undescribed*)

Dieppe,	6 cs. 14 cks. 20 btls.
Hamburg,	17 cks. 8 pkgs.

Coal Products (*otherwise undes.*)

Dieppe,	1 cs. 124 cks.

PRICES CURRENT.

WEDNESDAY, May 9th, 1894.

Prepared by Messrs. Higginbottom and Co., 116, Portland Street, Manchester.

The values stated are F.O.R. at maker's works, or at usual ports of shipment in U.K. The price in different localities may vary.

	£	s.	d.
Acids:—			
Acetic, 25 % and 40 % .. .. per cwt.	6	6 &	10 6
,, Glacial .. .. ,,			50/-
Arsenic S.G., 2000° .. .. ,,	0	14	6
Fluoric .. .. per lb.	0	0	3¾
Muriatic (Tower Salts), 30° Tw. .. .. ..per bottle	0	0	10
,, (Cylinder), 30° Tw. .. .. ,,	0	3	0
Nitric 80° Tw. .. .. per lb.	0	0	1¾
Nitrous .. .. ,,	0	0	1¾
Oxalic .. .. nett ,,	0	0	3¾
Phosphoric, 1750° .. .. ,,	0	1	0
Picric .. .. ,,	0	1	0
Sulphuric (fuming 50 %) .. .. per ton	15	10	0
,, (monohydrate) .. .. ,,	5	10	0
,, (Pyrites, 168°) .. .. ,,	3	0	0
,, ,, 150° .. .. ,,	1	5	0
,, (free from arsenic, 145°) .. .. .. ,,	1	6	0
Sulphurous (solution) S.G. 1025 .. .. .. ,,	3	0	0
Tannic (pure) .. .. per lb.	0	1	1
Tartaric .. .. ,,	0	0	11
Arsenic, white powdered .. .. nett per ton	14	0	0
Alum (loose lump) .. .. ,,	5	2	6
Alumina Sulphate (pure) .. .. ,,	5	0	0
Aluminoferric .. .. ,,	2	7	6
Aluminium .. .. per lb.	0	3	0
Ammonia, Anhydrous .. .. ,,	0	1	3
,, ·880=28° B .. .. per lb.	0	0	3
,, =24° B .. .. ,,	0	0	2¼
,, Carbonate .. .. nett ,,	0	0	3¾
,, Muriate .. .. per ton	24	10	0
,, ,, (sal-ammoniac) 1st & 2nd .. per cwt.	39/- &		37/-
,, Nitrate .. .. per ton	44	0	0
,, Phosphate .. .. per lb.	0	0	10½
,, Sulphate (grey) London .. .. .. per ton	13	2	6
,, ,, (grey) Hull .. .. ,,	13	0	0
Aniline Oil (pure) .. .. per lb.	0	0	5½
Aniline Salt ,, ... ,,	0	0	5¼
Antimony .. .. per ton	45	10	0
,, (tartar emetic) .. .. per lb.	0	0	10
,, (golden sulphide) .. .. ,,	0	0	10
Barium Chloride .. .. per ton	6	10	0
,, Carbonate (native) .. .. ,,	3	10	0
,, Sulphate (native levigated) .. .. .. ,,	45/- to		75/-
Bleaching Powder, 35 % .. .. nett ,,	7	10	0
,, Liquor, 7 % .. .. ,,	3	10	0
Bisulphide of Carbon .. .. ,,	11	15	0
Chromium Acetate (crystal) .. .. per lb.	0	0	6
Calcium Chloride .. .. per ton	2	5	0
China Clay (at Runcorn) in bulk .. .. .. ,,	17/6 to		30/-
Coal Tar Products and Dyes:—			
Alizarine (artificial) 20 % .. .. .. net per lb.	0	0	8
Magenta .. .. ,,	0	3	9
Anthracene, 30 % A, f.o.b. London .. per unit per cwt.	0	1	1
Benzol, 90 % nominal .. .. .. per gallon	0	1	1
,, 50/90 ,, ... ,,	0	1	4
Carbolic Acid (crystallised 40°) .. .. .. per lb.	0	0	6⅛
,, (crude 60°) .. .. per gallon	0	1	7
Creosote (ordinary) .. .. ,,	0	0	1½
,, (filtered for Lucigen light) .. .. ,,	0	0	2½
Crude Naphtha 30 % @ 120° C. .. .. .. ,,	0	0	5¾
Grease Oils, 22° Tw. .. .. per ton	2	10	0
Pitch, f.o.b. Liverpool or Garston .. .. .. ,,	1	7	3
Solvent Naphtha, 90 % at 160° .. .. .. per gallon	0	1	2
Lucigen" and "Wells Oils .. .. ,,	0	0	2½
Copper .. .. per ton	39	17	6
,, Sulphate .. .. ,,	15	10	0
,, Oxide (copper scales) .. .. ,,	40	0	0
Glycerine (crude) .. .. ,,	15	10	0
,, (distilled S.G. 1250°) .. .. ,,	44	0	0
Iodine .. .. nett, per oz.	0	0	9
Iron Sulphate (copperas) .. .. per ton	1	4	0
,, Sulphide (antimony slag) .. .. ,,	2	0	0
Lead (sheet) for cash .. .. ,,	10	5	0
,, Litharge Flake (ex ship) .. .. ,,	13	0	0
,, Acetate (white ,,) .. .. ,,	25	15	0
,, ,, brown ,,) .. .. ,,	16	10	0
,, Carbonate (white lead) pure .. .. .. ,,	20	0	0
,, Nitrate .. .. ,,	20	0	0
Lime, Acetate (brown) .. .. per ton	5	17	6
,, ,, (grey) .. .. ,,	10	5	0
Magnesium (ribbon and wire) .. .. per oz.	0	2	3
,, Chloride (ex ship) .. .. per ton	2	10	0
,, Carbonate .. .. per cwt.	1	17	6
,, Hydrate .. .. per ton.	17	0	0
,, Sulphate (Epsom Salts) .. .. per ton	3	0	0
Manganese, Sulphate .. .. ,,	17	15	0
,, Borate .. .. per cwt.	2	12	6
,, Ore, 70 % .. .. per ton	4	5	0
Methylated Spirit, 61° O.P. .. .. per gallon	0	2	2
Naphtha (Wood), Solvent .. .. ,,	0	3	7
,, ,, Miscible, 60° O.P .. .. .. ,,	0	4	4½
Oils:—			
Cotton-seed .. .. per ton	21	15	0
Linseed .. .. ,,	21	15	0
Petroleum, Russian .. .. per gallon	0	0	3¼
,, American .. .. ,,	0	0	5¼
Phosphorus (yellow) .. .. per lb.	0	2	2
,, (red) .. .. ,,	0	2	9
Potassium (metal) .. .. per oz.	0	3	7
,, Bichromate .. ..nett per lb.	0	0	4½
,, Carbonate, 90% (ex ship) .. .. .. per ton	16	15	0
,, Chlorate .. .. per lb.	0	0	7¼
,, Cyanide, 98% .. .. ,,	0	2	0
,, Hydrate (Caustic Potash) 80/85 % .. per ton	21	15	0
,, ,, (Caustic Potash) 75/80 % .. ,,	20	0	0
,, ,, (Caustic Potash) 70/75 % .. ,,	19	10	0
,, Nitrate (refined) .. .. per cwt.	1	2	6
,, Permanganate .. .. per cwt.	3	2	6
,, Prussiate Yellow .. .. per lb.	0	0	10¼
,, Sulphate, 90 % (ex ship) .. .. .. per ton	9	15	0
,, Muriate, 80 % (do.) .. .. .. ,,	8	7	6
Silver (metal) .. .. per oz.	0	2	5
,, Nitrate .. .. ,,	0	2	10
Sodium (metal) .. .. per lb.	0	3	4
,, Carb. (refined Soda-ash) 48 % ..nett per ton (F.O.R.)	4	17	6
,, ,, (Caustic Soda-ash) 48 % .. ,, ,, (F.O.R.)	4	2	6
,, ,, (Carb. Soda-ash) 48% .. .. ,, ,, (F.O.R.)	4	0	0
,, ,, (Alkali) 58 %) .. .. .. ,, ,, (F.O.R.)	3	15	0
,, ,, (Soda Crystals) .. .. .. ,, ,, (F.O.R.)	2	15	0
,, Acetate (ex-ship) .. .. ,,	14	15	0
,, Arseniate, 45 % .. .. ,,	11	0	0
,, Chlorate .. .. per lb.	0	0	8¾
,, Borate (Borax) .. .. net, per ton.	23	0	0
,, Bichromate .. .. ,, per lb.	0	0	3¾
,, Hydrate (77 % Caustic Soda) (f.c.b.) net pr. ton (10 ton lots)	10	15	0
,, ,, (74 % Caustic Soda) ,, ,, ,, (10 ton lots)	10	0	0
,, ,, (70 % Caustic Soda) ,, ,, ,, (10 ton lots)	9	0	0
,, ,, (60 % Caustic Soda) .. ,, ,, (10 ton lots)	8	2	6
,, ,, (60 % Caustic Soda, cream) (f.o.b.) ,, (10 ton lots)	7	17	6
,, Bicarbonate .. .. ,,	6	12	6
,, Hyposulphite .. .. ,,	5	12	6
,, Manganate, 30% .. .. ,,	16	0	0
,, Nitrate (95 %) ex-ship Liverpool .. .. per cwt.	0	9	10½
,, Nitrite, 98 % .. .. per ton	29	10	0
,, Phosphate .. .. ,,	15	0	0
,, Silicate (glass) .. .. per ton	5	7	6
,, ,, (liquid, 100° Tw.) .. .. ,,	4	5	0
,, Stannate, 40 % .. .. per cwt.	3	0	0
,, Sulphate (Salt-cake) .. .. per ton.	0	17	6
,, ,, (Glauber's Salts) .. .. ,,	1	5	0
,, Sulphide .. .. ,,	8	10	0
,, Sulphite .. .. ,,	5	15	0
Strontium Hydrate, 100% .. .. ,,	8	10	0
Sulphocyanide Ammonium, 95 % .. .. per lb.	0	0	7¼
,, Barium, 95 % .. .. ,,	0	0	5
,, Potassium .. .. ,,	0	0	7½
Sulphur (Flowers) .. .. per ton.	7	12	6
,, (Roll Brimstone) .. .. ,,	5	15	0
,, Brimstone: Best Quality .. .. ,,	3	17	6
Superphosphate of Lime (26%) .. .. ,,	2	7	6
Tallow .. .. ,,	28	0	0
Tin Crystals .. .. per lb.	0	0	6¾
Zinc (Spelter) .. .. per ton	15	12	6
,, Chloride (solution, 96° Tw.) .. .. .. ,,	5	10	0

THE

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AND

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Notices.

nications for the *Chemical Trade Journal* should be d Cheques and Post Office Orders made payable to—

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tions for the Editor, if intended for insertion in the issue, should reach the office not later than **Tuesday**

invited to forward items of intelligence, or cuttings from ers, of interest to the trades concerned.

orts, and correspondence on all matters of interest to the l allied industries, home and foreign, are solicited. s should condense their matter as much as possible, ide only of the paper, and in all cases give their names , not necessarily for publication. Sketches should be te sheets.

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nts intended for insertion in the current week's issue he office by **Wednesday morning** at the latest.

CURRENT TOPICS.

FIN DE SIECLE ADVERTISING.

The remarks recently made by the Premier on blatant advertising, have not been made in vain, if a current report is to be relied upon. If a large advertising firm has decided to cease placarding the landscape right and left, at the expiration of their present contracts, it is a welcome sign that even our most enterprising commercial men, are alive to a sense of fitness, even in business matters. The most refreshing feature of the Premier's sarcastic criticism, is that he displaces sentimentality with commonsense. With those who have endeavoured to boycott advertising on aësthetic principles, we have but little sympathy; since they are only trying to suppress in one form, what they profess to foster in another. Advertising now-a-days is all-but an art, and certainly a collection of some of the pictorial advertisements issued during the past decade would include many meritorious works. As a matter of fact we have seen a large, and otherwise bare and barn-like room decorated in this way, with no mean artistic effect.

But *revenons à nos moutons*, even Ruskin's vigorous and masterly tirade against railways, has in no way diminished their developement, and all attempts to restrict advertising on sentimental grounds, deserve to be attended with about as much success.

The attitude adopted by the Premier in this connection, however, puts quite another complexion on the question. He says nothing against advertising-importunity, in the the right place it is the secret of success, but he emphasises the paramount importance of eschewing methods which make advertising objectionable, and distasteful to the public. The object of an advertiser is to please and tickle the fancy of the public, as well as rivet their attention; and if he attains the latter end at the expense of good-will, people will be likely to look with aversion, rather than favour upon his wares. Novelty is an important feature in an advertisement, but it must be of a pleasing nature. The worthy Mr. Barlow, as caricatured by Burnand, advertised his school in a very *novel* way, by sticking his gummed card on the bald heads of the guests at Mr. Merton's dinner party, but we do not read that he filled his school.

Importunity at the wrong time, or in the wrong place irritates rather than persuades, yet, in the right way and place, advertisements can hardly be too importunate. The development of the art of advertising therefore, apparently depends upon selecting in the future, means whereby the public can be subjected to unlimited, but well directed importunity. It is while bearing these facts in mind that advertisers have to consider whether they are to requisition mountains, landscapes, and sailing canvass as advertisement hoardings, or to employ the sky as a magic lantern screen, spaced into allotments. Whether pleasing effectiveness can

be obtained in such ways, is a question which individuals must answer for themselves.

At the same time this matter, we think, admits of no reasoning save that of common sense, and commercial wisdom and foresight. Any means that conform to the above considerations are legitimate for advertising purposes, and nothing almost, is too good if aptly and deftly utilised. It would not be difficult to instance cases where works of art have been so employed, and to point out where their use would have been out of place, but it is necessary, to avoid being invidious, to confine our remarks to the abstract. In conclusion, it may be said that a certain amount of forbearance is due to advertisers from the public, since it is the advertisers they have to thank for their "penny daily" with news from all parts of the world, not to mention other luxuries which have become matters of every-day convenience. At the same time we think advertisers may be trusted to ply their business in accordance with the restrictions of reason, as by doing otherwise they will only over-reach themselves, and bring advertising into discredit; a thing, we think we may safely assume, they are far too wide-awake to do.

THE NEW U.S.A. TARIFF AMENDMENTS.

To the readers of the annual reports issued by the directors of limited companies connected with the chemical and correlated industries, the frequent references to the late coal strike as the cause of low dividends and profits must be becoming rather nauseous, albeit the plea is a genuine one.

There has, however, in some cases, been a slight relief to this well-worn explanation, by way of reference to the depression of trades in America, owing to currency conflictions and high tariffs. The former are not terminated yet, though an attempt is being made to coerce Great Britain and her colonies by imposing a heavy impost. In regard to the latter, the relief afforded to the Democrats is likely to be short-lived, as the amendments of the Protectionists, numbering as they do about four hundred, are tantamount to a new Bill, framed on moderate Protectionist principles.

Among the amendments there are proposals to raise the duty on certain chemicals and dyes; while all chemical preparations containing alcohol are to be treated in a similar manner, on account of the rise in the Inland spirit duties.

The glass trade, which has been in a rather bad way over here, will not be improved by bottles being changed from an *ad valorem* to a specific duty; while the changes in regard to cylinder, crown, and window glass are much more serious. Plate-glass, moreover, does not stand still, and even though the advance is comparatively small, there is little room left for further curtailment of profit in this trade.

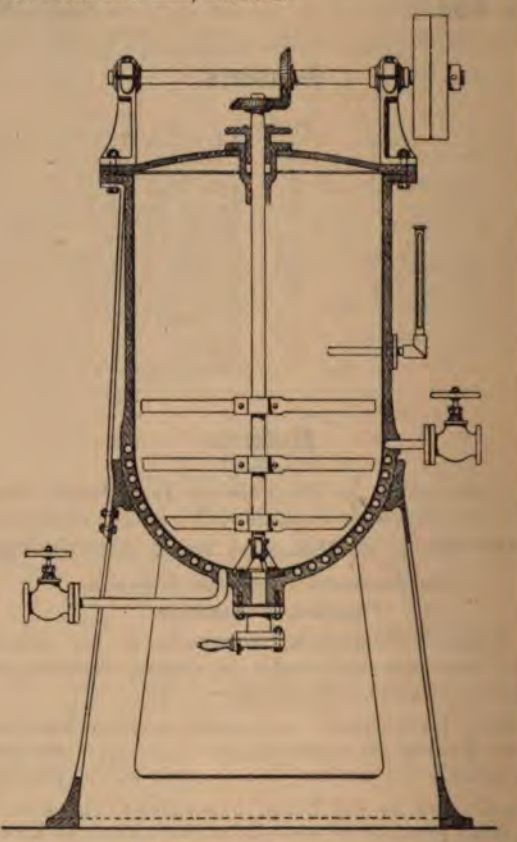
America is now fairly well admitted to be the leading country in connection with the manufacture of iron and steel as regards production, and in this direction also the new Bill proposes to fortify the present position by aid of protection.

Tinplate, however, is an exception, and makers here will be glad to know that this article stands where it formerly did.

The most important point about these changes is the likelihood of the new Bill being passed; and on this score the chances seem much inclined to the affirmative. The measure is a long way from complying with the requirements of the Democrats; but they seem of the opinion that even a crust is better than no bread at all. There will, no doubt, be a lengthy discussion on the Bill, but there seems to be a general feeling that it will ultimately be passed, as the votes of the requisite number of Senators to accomplish this end are looked upon by the leaders as assured. It remains to be seen whether their expectations are realised.

A HANDY MELTING OR DISTILLING KETTL

IN our illustration we show a patent kettle for heating, distillin melting products which require treating at a low or even tem ture. The whole of the surface is, by the arrangement of the pipes, evenly heated, so that the temperature can be more regulated. In melting fats, etc., charring is obviated by means o stirring apparatus as shown The height of the contents is ascertained by the gauge glass inserted in the side The inside o kettle is polished so that the contents can be almost completely l out and the kettle itself easily cleansed.



Another convenience of this way of heating is that the tempera can be maintained at a fixed point by the use of other heating medi such as water and oil. These kettles which are patented and mad Herrn Th. & Ad. Frederking, of Leipzig-Lindenau, are mad different shapes and sizes, with or without stirring apparatus. some the heating coils are let in up the sides as well as around bottom. They are also built so as to be almost on a level with floor, or fitted with a scaffolding from which they can be charged.

SOAP PAPER.

THERE has recently been brought out in France a sort of f soap for the use of those who are obliged to do consider travelling. It is a questi n of small pieces of paper, slightly la than visiting cards, covered on each side with a thin layer of ordi soap or of soap variously coloured and perfumed. These soap pa are put into memorandum books, card cases, or pocket books, just they were business or visiting cards. Each sheet serves as soap for time only, and is used like an ordinary cake of soap. In fact, it i easily carried soap that may be offered to a travelling companion, every sheet is intact, it having to be used but once.

The manufacture of this soap paper is very simple. It consist immersing sheets of unsized paper in a bath of cocoanut oil soap pared in the same way as for the manufacture of toilet soaps. strips of paper are dried, and then passed between rollers, in orde render them smooth and give them a handsome appearance. strips are then cut to the proper dimensions and stamped with marks as may be desired.

Instead of paper there may be used squares of parchment papers better still, of tracing cloth. This industry is still new, and we do yet know what development is in store for it.—*La Nature.*

ANUFACTURE OF BARIUM COMPOUNDS.

(*Concluded from p. 210.*

SULPHIDE OF BARIUM.

anufacture of raw Barium Sulphide is carried out in similar s and under exactly the same conditions as described in the n of Barium Chloride, of course omitting the Calcium nd adding to the mixture of heavy spar and coal a binding .g., coal tar. After the mixture has been prepared, it is) frequently till it reaches a doughy consistency, in which it may safely be assumed to be intimately mixed. After ınd a half hours the melt, if well handled, is ready for drawing, deposited in iron vats similar to those used in making loride, provided with good-fitting covers to prevent any decomposition of the melt when cooling. When freshly well manipulated the melt will contain from 65% to 67% Sulphide, and must be packed as soon as possible into casks,)hide rapidly absorbs moisture from the air, getting lumpy mposing into $Ba(OH)_2$ and $Ba(HS)_2$, forming a . Such damaged portions cannot of course be packed up, melted with the next charge.

lytical control is limited to the estimation in the raw melt of BaS.

purpose dissolve 5 grams of melt in water at about 60°-70°C, it without filtering a moderate excess of Hydrochloric Acid. filtered into a 500 c.c. flask, and the residue washed well ater. After cooling, the flask is filled up to the mark, and c., weak sulphuric acid is added to precipitate the Barium, estimated in the ordinary manner. Finally the $BaSO_4$ is as BaS.

BARIUM PEROXIDE.

aration of Barium Peroxide falls into two distinct operations: ep. of Barium Nitrate,

ansformation of Barium Nitrate into the Peroxide.

Preparation of Barium Nitrate 1,100 kilograms of Barium re dissolved in water in an iron vessel to which steam is plied, till the solution shows about 32° Bé. This is allowed d the clear solution drained off into a round copper vessel a steam jacket, where it is heated to boiling and kept for at that temperature.

nied by thorough stirring, a sufficient quantity of Sodium hrown in to decompose the Barium Chloride. At the same olution is rendered very strong, and the difficultly-soluble rate falls out. These crystals are fished out and thrown ping frame or tub, where the drained liquid flows back into vessel. By means of washing with a little cold water the adher- liquor is separated as completely as possible, or the liquor wn off on the large scale by means of a pump.

um Nitrate is re-crystallised in lead-lined wooden vats of , 1 m broad, and 0·8 m. deep. For this purpose the e to be again dissolved in similar vats of 4 m. long, 2 m. 0·8 deep, with hot water till the solution reaches 24° Bé., nd 2-3 hours, and draw off the liquor by means of a lead bber siphon into the above mentioned vat, wherein the on will be completed, according to the time of year, in ays.

her liquor serves for the solution of urther quantities of the Barium Nitrate. If these liquors after long use should strong, they are evaporated generally twice to the point of on, after which it does not pay for a further operation. ws, after two evaporations and crystallisation, a mother aining 8·2% of Barium Nitrate; after the third, a liquor only 2·2%.

process of crystallisation has been carried out, the crystals into draining vessels and washed with a small amount of after which the nitrate is transformed into the peroxide.

or which remains behind in the copper vessel after the ion of the Barium Chloride has taken place with the Sodium nsists almost exclusively of Sodium Chloride, which is and used up in some useful manner, *e.g.*, in the preparation oniac

rmation of Barium Superoxide falls similarly into two rate operations, which are:

ion of the barium nitrate.

ansformation of the fused products into barium peroxide.

he fusion of the barium nitrate you require a hearth of fire the fire bars lie close together the whole length of the or firing, coke is employed. The pots used are made of fire clay, each of which holds about 16 kilos. Fill these right with barium nitrate, and finally cover them with a lid having nob or handle. These pots are set upon bricks also made tte" or clay. Divide 280 kilos. of barium nitrate amongst pots, and when starting the process surround each pot with a shovelful of glowing charcoal, and fire up with coke in moderate size pieces. The pots are continually kept surrounded with glowing coke. Suitable dampers are placed before the hearth to prevent the combustion becoming too vigorous at first. If the flames flare up too much, which is objectionable, add a little fine coke. After about four hours the barium nitrate liquefies, remaining so another three hours. After that the contents thicken, and finally become quite hard. When this point has been reached throw another shovelful of coke upon the lid. Allow the fires to burn out, and leave alone till next morning.

II.—Take the pots out of the hearth, turn upside down, take the cakes out and store them up in an iron vessel with an air-tight lid. When the cakes are quite cold break up into pieces 1 c.m. and 3-4 c.m. deep. These lumps are placed in iron tubes (semicircular in section) of about 1 m. in length. Two of these tubes are placed in an outer case made of cast iron These outer cases have a diameter of about 160 m.m. and 2½ m. length, and three of these are put into an oven together. The three cases lie in an oven of ordinary masonry, except at the neck of the furnace where fire-clay is used.

The partition wall in the middle serves as a rest for the pipes. Two of the cases are filled as described above, the third tube is empty. This latter is connected with a vessel by a prolongation of the tube, this vessel is filled up to the false bottom with nut-sized pieces of caustic soda, and has a tight fitting lid. The tubes are connected by chambers of sheet iron, the end of the first tube being in communication with the chimney. A damper of sheet iron is placed between the end of this tube and the chimney, and glass "sights" are placed at either end of the tubes, so as to make it possible to control the action during the process.

In the course of the process air enters under the false bottom of the vessel charged with NaHO, where it is decarbonated and dehydrated, afterwards going through the third of the tubes and finally through the second and first into the chimney.

When everything is ready to operate the process, heat the oven with coal until the pipes appear dull red, which can be observed through the glass sights. The inner tubes previously filled with the fused barium nitrate are now placed in the cases and left three to four hours exposed to the heat of the oven, regulating the heat nicely, taking care that the temperature of the pipes does not exceed a dull red heat. When the contents have been exposed to the passage of the air for about three to four hours the transformation into peroxide is complete. The tubes are then withdrawn and allowed to cool. At the same time shut the damper near the chimney.

The remaining products are thrown out upon a table and sorted out. If the chemical change has been complete and the temperature not too high the pieces should appear greenish in colour. Any gray pieces must be worked again in the refilling of the inner tubes. The perfect pieces are then ground, passed through a sieve, packed in casks holding about 200 kg. previously lined with paper. The most important use of barium peroxide is as a direct bleaching agent. It is also used for making hydrogen peroxide, although for both these purposes it finds a serious opponent in sodium peroxide, which is now so largely made by the Aluminium Co., Oldbury, and will probably in the near future drive it out of the market.

THE COMPOSITION OF CARMINE.

INTERESTING particulars in regard to this colouring matter have recently been published by S. Feitler, and his experiments reveal the fact that adulteration is freely practised. He analysed six samples, their technical names being: (1) Best Naccarat carmine, (2) best genuine carmine, (3) best genuine carmine, (4) ordinary carmine, (5), antique carmine, (6) best Naccarat carmine. The last three were adulterated, No. 4 containing 88·5 per cent. of ash, consisting of lead oxide, alumina, and lead sulphate. It had probably been prepared from a sample of eosin with a blue tint by precipitation with lead acetate and alum. No. 5 was much like the sample known as "best genuine," but the ash amounted to 74·56 per cent., and consisted mostly of barium carbonate and some sulphate. According to Bonath it was a baryta lake of corallin. No. 6 was found to be a mixture of genuine cochineal lake and a lake prepared from a coal-tar colouring-matter. It contained 15·28 per cent. of ash, 16 08 per cent. of water, 17·31 per cent. of nitrogenous matter, and 51·38 per cent. of colouring-matter (reckoned by difference). The artificial colouring-matter present was identified as a true lake of phloxin. In the genuine samples the ash amounted to 7·09, 9·18, and 7·24 per cent., and this consisted of 35, 25, and 43 per cent. of Al_2O_3 and 44, 31, and 36 per cent. of CaO. These results practically agree with Dechan's, and it is another warning to chemists not to stock an article which contains much more than 10 per cent. of ash, as the ash of genuine carmine contains neither barium or lead, and the least trace of these should be looked on with suspicion.

THE CITY AND GUILDS OF LONDON INSTITUTE.

THE Annual General Meeting of this Institute was held recently at Mercers' Hall, Cheapside, London. The Earl of Selborne, chairman of the council, presided.

The council, in their 14th annual report, stated that they continued to watch with interest the development of the several schemes for organizing and improving secondary and higher education in the metropolis, and they gladly placed at the disposal of the bodies intrusted with the administration of these schemes the knowledge aud experience which the institute had gained in technical education. In dealing with the work of the Central Technical College in Exhibition-road, the report showed that the total number of regular students in 1892-3 was 205, against 184 in the previous year, and 35 in 1885-6, the first complete session. In addition to the regular work of the college, the classics for teachers in elementary schools, intended to qualify them as instructors in manual training, and the class for masons were continued. At the Technical College, Finsbury, there were 213 day students, against 198 in the previous year and 108 in 1883-4, the year the college opened; while there were 980 students in the evening department of the college. At the South London School of Technical Art there were 156 students. In the examinations of the institute in technology and manual training 10,254 candidates presented themselves, against 9058 in 1892; while 5,645 passed, against 4,819. There are now 25,653 students in these subjects, against 24,374 last year. The institute expressed its obligation to a large number of City Livery Companies for their special grants towards the prizes given in connexion with the technological examinations, which prizes were awarded on results of a national competition among students from centres in different parts of the country. Examinations were held last year in 388 centres throughout the country, and in New South Wales, New Zealand, and Bombay. The income of the institute for the past year was £33,053, made up as follows:—Subscriptions and donations, £23 277 ; school fees and sundry amounts received from students for materials, £9,776. The total expenditure was £3 ,681 , showing a balance for the year of £2,371. The cost of general adminstration was £971. The Earl of Selborne referred to the various points of the report, and said that the success of the institute, which had been progressive in all its departments from year to year, had reached a very high point indeed in the present year. The report was agreed to.

THE ANALYSIS OF FATS AND RESINS.

IN a paper upon this subject read before the American Chemical Society, Mr. P. C. McIlkiney gives the following method for the analysis of fats, etc., which he explains has been devised by determining the amount of bromine which oils and resins can absorb by addition (which will be called the "Bromine Addition Figure"), and at the same time the amount of bromine which replaces hydrogen, the action being allowed to continue eighteen hours in the dark; this gives the "Bromine Substitution Figure." The first figure gives in most cases the same information as the Hübl figure, but is more reliable, while the second figure is a measure of the activity of the saturated constituents toward bromine.

It depends upon the fact that bromine in forming substitution compounds forms a molecule of hydrobromic acid for every atom of bromine which replaces hydrogen, while in forming additive compounds no hydrobromic acid is formed.

It was found impossible to use iodine alone, as the addition figures are then very much too low, and there is little difference between the substitution figures of bodies of unlike character.

The following solutions are used:—

Bromine in carbon tetrachloride ..... $\frac{N}{3}$
Sodium thiosulphate ..... $\frac{N}{10}$
Potassium hydroxide ..... $\frac{N}{10}$

0·210-1·000 gram of the substance is dissolved in ten c.c. of carbon tetrachloride in a bottle of 500 c.c. capacity provided with a carefully ground glass stopper. An excess of bromine solution is added, the bottle tightly stoppered and placed in a dark closet. No water or alcohol should be present, and light should be excluded as far as practicable. At the end of eighteen hours the bottle is cooled with ice to form a partial vacuum, and a piece of wide rubber tubing about one and one-half inches long is slipped over the neck of the bottle so as to form a well about the stopper. This well is filled with water and the stopper carefully lifted when the water will be sucked into the bottle and dissolve the hydrobromic acid present. When about twenty-five c.c. of water have been added in this way, the bottle is well shaken and 10-20 c.c. of twenty per cent. potassium iodide solution added. The excess of bromine acts on the potassium iodide, liberating a corresponding amount of iodine which is titrated with $\frac{N}{10}$ thiosulphate after adding about 75 c.c. more water, using starch as an indicator. The total bromine absorption is calculated from the difference between the amount of thiosulphate required for the bromine solution added and the amount required for the excess. The contents of the bottle are now transferred to a separatory funnel and the aqueous portion separated, filtered through a cloth filter, a few drops of thiosulphate added if the solution is blue, and this is then titrated with $\frac{N}{10}$ potassium hydroxide, using methyl orange as indicator. The end reaction is best observed by using a porcelain casserole to contain the solution, adding the alkali in slight excess and titrating back with $\frac{N}{10}$ hydrochloric acid until the pink acid tint just reappears. From the number of cubic centimeters of alkali used the amount of bromine present as hydrobromic acid is calculated, and when expressed in per cent. gives the bromine substitution figure, because for every atom of bromine which has replaced an atom of hydrogen, one molecule of hydrobromic acid has been formed. Twice the bromine substitution figure subtracted from the total absorption gives the bromine addition figure.

The following results were obtained:—

Substance.	Total bromine absorption, eighteen hours.	Bromine, addition figure.	Bromine, substitution figure.
W. G. Rosin	212·7 ..	0·0 ..	106·35
E. Rosin	206·5 ..	0·0 ..	103·25
Second run Rosin Oil (a)	116·2 ..	0 0 ..	58·1
" " " " (b).....	114·7 ..	0·0 ..	57·35
American Raw Linseed Oil ..	102·88 ..	102·88 ..	0·0
Same Oil Boiled	103·92 ..	103 92 ..	0 0
White Salad Cotton-seed Oil ..	65·54 ..	64 26 ..	0 64
Sperm Oil	56 60 ..	54·52 ..	1 04

A consideration of the above figures shows that the results are much more instructive than those obtained by the Hübl process, which is the one in common use. Rosin oil, rosin, and other resins may be detected and determined in mixture with fatty oils, or, if they are present in known quantity, the character of the fatty oil may be determined. Investigations which are being made on a large number of oils and resins will probably furnish analytical data for the analysis of oils and varnishes

SULPHUR MINING IN SICILY.

THE annual output of the 570 Sulphur mines which are in operation in Sicily is about 2,500,000 tons of ore from which some 385,000 tons, of sulphur are obtained. The great loss in this industry occurs in the roasting of the ore, as the old calcaroni method is very wasteful. A patent kiln known as the Gill kiln is now rapidly gaining ground, and is much more economical as it increases the amount of sulphur obtained by about 50 per cent. The principle of the kiln is that of burning coke in furnaces instead of using part of the sulphur as the fuel. In the later improvements of these kilns the coke furnace system has been superseded by another. The improved kiln consists of ovens of masonry, covered in with a cupola, similar in form to, but of smaller dimensions than the calcaroni, and are generally built and worked in couples, each oven being called a cell, and contains from 5 c.m. to 30 c.m. of ore, or in batteries of four and six, connected by air passages for the circulation of the gases.

When loaded with ore the first cell is lighted, and the gases, forcing their way through the openings at the side into the next cell, gradually heat the ore in it, and so on, until by the time the first cell has completed its fusion of the ore, the adjoining cell has reached such a temperature that the ore spontaneously ignites, and the fusion regularly proceeds in this way. A hole made in the base of each cell enables the liquid sulphur to be run off into moulds, and an arched corridor surrounding the whole kiln at its base enables the workmen either to tap the molten sulphur at a higher level than the ground, or to ascertain the level of the flame. A shaft to carry off the surplus smoke is generally built in the larger batteries.

The advantages of this process are that the gases, which are heavily charged with sulphur, are not lost, as in the case of the calcaroni, and the percentage of yield is higher, the time occupied is considerably less, each cell occupying from seventy-two to ninenty-six hours, according to its size, and that as the emission of smoke is reduced to a minimum (whereby the danger to crops is greatly diminished), the kilns can work nearly all the year round.

That this process has found favour may be gathered from the fact that whereas in 1888, when the process was looked upon with distrust, only 40 mines found employment for 365 cells, six years later the number stood as follows:—Mines 225 (over one-third of the whole in work); cells built or working, 1,714; cells under construction, 107: total, 1,821—being a rate of increase equal to 237 cells per annum; and that whereas the steam and ordinary processes show a varying but diminishing aggregate tonnage of ore treated, the Gill kilns, on the other hand, show an increasing quantity each successive year, a state of things which, given honest dealing, would be fraught with good.

THE SOURCES AND APPLICATIONS OF BORAX.

By E. L. Fleming.

BORAX is a white, crystalline substance, peculiar to the mineral kingdom; it is a very mild alkali, of a pleasant sweetish taste, and is not injurious to the human system; it is freely soluble in water; its solution acts as a solvent for resins, albumens, fatty acids and certain organic bodies that are not soluble in water alone; but it does not appear to attack fibres, membranes, tissue, or skin. In the crystalline state or in solution, it is very easily decomposed by such acids as tartaric acid or acetic acid; but in its calcined or anhydrous state, when fused, the boracic acid it contains acts as a more powerful acid than even sulphuric acid. Borax in the crystalline state contains 47¼ per cent. of its weight of water, to which it tenaciously adheres at the ordinary temperature of the atmosphere, time seeming to have very little effect upon its character. At the boiling point of water it slowly parts with nearly the whole of this water, and if the process be conducted quickly, at a still higher temperature, the borax swells to several times its size, becoming a body of a light and porous nature, which may be crushed to a compact powder. At a higher temperature than 450° Fahr. it melts to a clear glass, which remains transparent on cooling. Though the applications of borax are not generally known, as a fact this interesting and valuable salt will be seen to be utilized in different ways by several industries.

For goldsmiths a special grade of borax is prepared, called jeweller's borax, in pieces as solid and free from cracks as possible, so that when rubbed on a slate with water it is not liable to fall to pieces, but will gradually wear away until too small to handle conveniently, when the small pieces are put on one side, to be used as a flux in melting or collecting.

An enamelled coating for cast iron and steel as well as copper is made by fusing on the metal a mixture of quartz, feldspar, clay and borax, and then covering it with a glaze containing borax. It is thus extensively used in the manufacture of enamelled iron mantel-pieces, made to represent the rarest marbles, and in the great variety of enamelled signs and hollow ware. Borax is also used in conjunction with infusorial earth for lining fireproof safes, for being a salt that contains nearly 50 per cent of its weight of water of crystallisation, with which it parts at a high temperature in the event of fire, the steam arising from the heated borax permeates the books and papers in the safe, and prevents their being burnt. For this purpose it is superior to alum, which is an acid salt, and has a tendency to corrode the iron. At a red heat the boracic acid in borax readily dissolves, and unites with metallic oxides, forming a fusible glass, which property renders borax of great use in conjunction with other fluxes, for certain mineral and metallurgical processes.

In brazing copper it is used for cleansing the parts to be joined, on account of the property it possesses of dissolving the oxides that form a film upon the metal. It is very extensively used in the manufacture of copper pipes and for other purposes.

In welding iron and steel together it answers the same purpose. Machinists and others use the crystal for chilling the iron to the right temperature, for the purpose of case hardening or tempering different portions of machinery or implements to the desired degree.

Borax has recently been applied with considerable success to the manufacture of optical glass at Jena. This glass has very high refractive properties, and has been very successfully applied to the manufacture of lenses for microscopes and for photography.

Borax is now used in glazing china and earthenware so extensively all over the world that the consumption in these industries, at the present time, exceeds any of the others. The principle adopted is to form a fusible glass of borax and other materials, and fuse it on to the baked earthenware. Many formulæ have been published of the composition of this frit, but almost every large firm have their own formula.

In the manufacture of Parisian cement the borax is added for the purpose of enabling cement, when set and moulded, to take a polish.

In the chemical industries, it is used in the manufacture of soap, colours, drysaltery, and cosmetics; also in photography and timber preserving.

There are many kinds of borax soap. From all accounts its use in this industry arose from the fact that the linen of Holland and Belgium became celebrated on account of its superior whiteness, in the cleansing of which borax was used as a soap powder; and hence we find that dry soap, soft soap, and toilet soaps are now made with it.

In the manufacture of colours borax is used, and in the preparation of borate of chromium, a pale green powder, and borate of copper, a darker green. These are used as substitutes for arsenical green in painting and dyeing.

In drysaltery it is used in the shape of borate of lead and borate of manganese. Both these products are used in the manufacture of varnish (as driers). The borate of lead is used for the palest varnishes, and the borate of manganese in other varnishes.

As a cosmetic, it enters in the composition of many preparations for the hair, the face, and the hands.

Photographers use it in the toning bath to govern the act chloride of gold, which is dissolved in conjunction with it.

In the preservation of timber it is used for dissolving the albu resinous matter, or the sap, which readily decays, leaving on tough fibre.

Borax dissolves caseine, forming a substance which can be u mucilage.

In silk it serves for dissolving the glutinous matter adhering silk.

In calico printing it is used for fixing certain colours as a mord

Laces, muslin, tulle, and other light fabric steeped in a solu borax are rendered fireproof.

Hat manufacturers use borax for dissolving shellac to form a ing for felt hats made of wool. A weak solution of borax is use the felt body is proofed, to wash from the surface any excess of ing not required upon the face of the felt.

Candle wicks are prepared with a solution of borax. Its us cause the wick to curve in burning, and at the same time to vitr ash. It also prevents the wicks from burning too rapidly, and o the necessity for snuffers.

In the leather industries it is used in curing and preparing sk leather dressers and leather dyers.

It is used as a mordant in dyeing leather with aniline colours. also in polishing, a little borax in the blacking or colouring is ad enable the iron used in polishing to pass freely over the leath prevents the iron sticking and increases the glaze.

Pork packers use powdered borax for sprinkling over ham bacon. Thousands of tons of meat are thus annually preser America.

Fish curers use a mixture of boracic acid, alum, and salt for k herrings fresh. The principal seat of this industry, so far, has b Hangoesund, near Stavenger, in Norway.

Having thus practically demonstrated its usefulness, let us tu attention to the sources from whence it comes. England has no fields or mines, and at present the material, either in the manufa state or that from which it can be manufactured, comes from T Italy, Chili, California, and Asia Minor. Thibet is the most a source, and under the name of "tincal" borax is brought fro neighbourhood of Yam-dokcho to Calcutta, from which port the of origin is distant between 400 and 500 miles almost direct nortl the present time there is railroad communication as far as Darj or a distance of 300 miles.

There is also a borax refinery at Jagadhri, 37 miles south- Umballa, in Northern India – all the borax which is exporte India being brought from the Trans-Himalayan region.

The manufacture of borax, as far as England is concerned, itself into two classes—the manufacture of borax from boracic ac that from sesquiborate of lime and double borate of lime and so

The mere refining or recrystallizing of crude borax requires at all. The manufacture of borax from boracic acid importe Italy involves several processes. The sulphates of ammoni magnesia have first to be washed out of the crystallized acid, a is effected by reason of their superior solubility. The boracic then boiled in large iron pans, with the requisite amount of ca of soda, the impurities allowed to subside, and the clear liquor large iron vats to crystallize. This first borax is not pure enou commerce, and requires a second crystallization.

The impure borax liquors are boiled down, and upon rea strength of 60° Twad., or 1.300 specfic gravity, are allowe crystallize and throw down a further crop of borax. Before the reaches a temperature of 80° Fahr. it is drawn off into other allow the sulphate of soda to crystallize out, and, finally, the li raised to the boiling point, and concentrated, in order to get ri common salt.

Borax manufactured from boracic acid is liable to be tinge various colours, such as black, green, or yellow, on acco impurities contained in the acid or the soda ash, and are due presence of sulphides or oxides of iron. In order to overcom difficulty the borax is bleached when in a state of solution.

The manufacture of borax from boracite, colmanite, or presents a new feature that does not appear in the manufactu boracic acid, and that is, that when any of these minerals are to a state of the finest powder, and boiled with carbonate o what is known as borate of soda, as well as biborate of s formed.

The biborate of soda or borax crystallizes out in the ordina but the borate of soda remains as a thick sirupy liquor, which h decomposed either with carbonic acid, boracic acid, or bicarb soda. If this is not done, loss is apt to occur, and the full str the mineral is not obtained.

With such abundant supplies of borate of lime throughout the it becomes a question of transporting the boracic acid it contain concentrated a form as possible, especially in those regions wh quality is but poor, and, therefore, many plans have been

e simplest is what is known as the sulphurous acid process, s to be preferred to others on account of the small quantity of equired to extract the boracic acid.

ocess consists in burning sulphur, and injecting the sulphurous nto the decomposing vessel, where the borate of lime is kept of agitation and suspension in water.

ne ton of sulphur is required to produce five tons of acid, and g effected in cost of transportation, where it takes two or even s of borate of lime to produce a ton of boracic acid, requires mendation.

s estimates have been made of the consumption of borax it the world, and one of the methods of ascertaining this is by to the productions of different countries and converting the materials in their equivalent of borax. We thus find the n to be as follows :—

	Tons.
Asia Minor	8,000
Thibet	2,000
Italy	3,000
United States	1,000
Chili and Bolivia	3,000
Total	22,000

American and Asia Minor supply has been developed within o years, it will be seen that the uses of borax, to the extent of ns per annum, have increased during that period, or nearly ent , and it may be taken for certain that its uses will still tend

ONTINUOUS TUBE FOR POLARIZATION TESTS.

Journal of the American Chemical Society, H. Pellet describes e for this kind of work which can be used continuously. In nation, he says in many cases the manufacturer of sugar, the r the seed producer is obliged to make a very large number of of the same class and as rapidly as possible. The work in seed selection is an example. In this industry it is often to make 3,000, 4,000, 5,000, and even 8,000 or more of mother beets in a day.

rdinary apparatus it is admitted that with one polariscope a erver may make from 500 to 600 or even 1,000 analyses in a ided one has a sufficient number of observation tubes, that is, nty to fifty. The continuous tube permits this work with much r, far greater rapidity, and requires but one observation tube. rument was devised especially for use in the analysis of eets.

difficulties were overcome before this tube was constructed in tory form. As now used there is a small tube at each , one of which is termed the funnel and connects directly and the extremity of the observation tube against the glass; the a similar tube, but is placed at a slight angle with the on tube. This small tube connects with the sink and is used d of the solutions after they have been polarized. This ent of the observation tube permits the displacement of one by another. In practice, the observation tube is never from the polariscope. At the start it is filled with water, cidulated with acetic acid, care being taken to remove all air The solution to be observed is now passed in at the funnel placing the water, driving it out through the tube at the end When another solution is ready for examination, it is cessary to pour it into the funnel and, as before, displace the solution. The chemist at the polariscope will at first observe ich diminish rapidly, and finally the solution will become clear. As soon as the liquid becomes clear the observation ade. While the chemist is entering the reading in his note assistant introduces a new solution at the funnel, and the t is ready for another observation. In this way an observer make four readings in a minute, but even if he could make he would attain a speed twice as great as is possible with the polariscopic methods and with far less labour. In the analysis nothers, where a slight difference is of no importance, an an easily make from six to ten readings per minute.

ial disposition of the apparatus may be made which permits e tube by siphonage. In this way from eight to twelve per minute may be polarized.

SCHORLEMMER LABORATORY.—The special laboratory at llege for the study of organic chemistry, which is being built ption as a memorial of the late Professor Schorlemmer. will, ted, be completed by the beginning of next session. The e building and fittings will be £4,500., and towards this he committee have in hand a sum approaching £2,300.

A CONTINUOUS GAS PROCESS.

MR. JAMES GRAY, of Bradford, Pa., is the inventor of a gas-generating plant which will run continuously, dispensing with the alteration of "runs" and "blows" hitherto found necessary in plants of this description. Another object is to locate the fixing retorts inside the generator, so that they may be heated by the waste heat of the gas-producing fuel. To effect his object the inventor employs a generator of the cupola type, together with a combined generator and carburettor. Near the top of the latter are placed two retorts, supported by a skeleton arch, and connected at one end by means of two T's. Both generators are provided with air and steam inlets at the base and also near the top, and with oil inlets both below the level of the fuel and at the top. Both generators being charged with fuel, an air blast is turned on to get up the necessary heat. When this is accomplished, says the inventor, the valves are closed, and steam or air, or both, are admitted in limited quantities to make fuel gas. If we assume the fire in the generator is blown from below, the air is admitted below the grate and the steam above the same, while the upper connections of steam and air are cut off. The steam passing up through the mass of incandescent fuel becomes decomposed, forming so-called water-gas, which, escaping from said fuel, is met by oil vapour introduced from the top. The oil vapour and water-gas here intermingle, and both pass over to the second shell, the combined generator and carburettor. The gas from one shell here meets and mixes with the gas produced in the other shell. The commingled gases pass over the full length of the incandescent fuel in shell through the two retorts, where they are thoroughly fixed and made non-condensable, and out into the seal, thence to the scrubber and holder. After running for about half-an-hour, by blowing beneath the fire it will be found that while the fire at the bottom is bright, at the top it has been partially smothered by the heavy smoke from the oil vapour settling down upon and partly deadening the fire at that point. To meet this difficulty the blast is reversed, thus blowing down through the fire from above. The water-gas resulting escapes from the base of the first shell and passes over to the other, and is carburetted by admitting oil into the second shell or into the retorts, or both, and is fixed in the same manner as above described. After running for a few hours the shells have to be refilled with fuel. The combustion is so regulated that the shells will be recharged alternately. Assume it is necessary to recharge the first shell. It will be disconnected and thrown out of use, and the gas is made and fixed in the other alone. In blowing down through this shell the combustion chamber is by-passed from the retorts. The steam then passes down through the fuel, and out at the bottom of the shell, and up through gas-pipe to retorts, where it is carburetted and permanently fixed. In blowing up through the second shell communication between the combustion chamber and the retorts is resumed, and the production of gas in the shell proceeds as when in connection with the first shell. If the second shell is to be charged it is disconnected and thrown out of use, while steam is forced up through the other, and oil vapour is introduced into the body of the incandescent fuel in that shell, thus carburetting and fixing the gas in the first shell alone. The combined product in this case passes away to the scrubber by a special outlet at the top.—*American Manufacturer.*

NOTICES.

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From

MR. JOHN HEYWOOD,

2, Amen Corner,

On usual trade terms. Paternoster Row, E.C.

FOREIGN REMITTANCES.

Owing to the inconvenience created by the various ways in which foreign subscriptions are remitted, we respectfully beg to inform subscribers that a *Crossed* MONEY ORDER is the most satisfactory method of remitting, both for them and ourselves. In the case of a Money Order, a letter advising us of same should always be sent, otherwise, owing to post-office formalities, much delay in tracing and acknowledging foreign remittances is inevitably entailed in this country.

Correspondence.

*** We do not hold ourselves responsible for the opinions expressed by our correspondents.*

COMPARATIVE ANALYSES OF SOAP.

(To the Editor of the Chemical Trade Journal.)

Sir,—In these days of keen competition when advertisments are rife amongst us, and often more or less misleading to the public, since every man advertises his own manufacture as the best, I think the following facts may prove interesting to your readers. Seeing an announcement offering £500 to any one who could find a soap containing more actual soap than that known as "Perfection," I had the curiosity to put the offer to the test, by analysing this soap and various other popular makes now before the public. The result of this work, done in leisure hours, has not been uninteresting, as the following figures show:—

Name of Soap.	Water.	Alkali.	Free Alkali.	Free Fat.	Fat Acids.	Total.
Matchless.	27·03	8 37	·0167	none	64·60	100·00
Venus	25 55	8·68	·0173	none	65·77	100·00
Sunlight	26·22	8 99	0176	none	64 79	100 00
Perfection	15·02	9·05	·0161	none	75 93	100·00
Titan	33 24	7 13	·0148	none	59 63	100 00
Magical	23·44	9·07	·0116	·052	67·44	100 00

I am, &c.,

Charles M. Blades.

Northwich, May 9th, 1894.

ANSWERS TO CORRESPONDENTS.

Crux.—Yes it answers very well. There is no need to specify them, and it would take a long time.

Oxide.—We have not particulars of the process. The idea is old enough. The last attempt was a success in every thing except financial results.

W. F.—Thanks for attention.

C. W.—Not as far as we can tell. There is a proverb about hurrying other people's cattle, note it.

A.F.—We are obliged for your advice note, but the information is rather ancient.

X.P.—The name and address was given at the time, to obviate enquiries like yours.

Trade Notes.

A Good Dividend in the Colour Industry.—Messrs. Meister, Lucius & Brüning, the well-known makers of aniline dyes, have declared a dividend of 28%. Their dividend last year was 26%. Their dividend is notable when the past year is stated generally to have been such a bad one for this industry at home and abroad.

Suffocated by Sewer Gas.—Three men engaged recently in cleaning the gullies in the sewer near Stamford street, London, were overcome by the noxious gases in the sewer. A rescue party succeeded in recovering the body of one man, but the other two when brought to the surface could not be restored to animation, though every effort was made to do so.

Society of Chemical Industry (London Section).—The next meeting of this section will be held at Burlington House, on Monday next, at 8·0 p.m., when papers will be read by Mr W. Gowland, on "A bye-product obtained in liquidating copper with lead;" and Mr. O. Guttmann, on "The manufacture of smokeless powder." The Annual General Meeting of the Society will be held this year at Edinburgh, on 18th, 19th, and 20th July prox.

An Uncapsizable Aluminium Boat.—Trials have been made recently with aluminium boats intended for the Wellman Arctic expedition. The boat tested was 18 feet long, 4 feet beam, and 2 feet deep amidships, weighing 350 pounds, and was found to be more stable even than was expected. The boat was put into the water empty, and a man tried to capsize it by sitting on the gunwale and hanging outside, but it was impossible to overturn it. It was then loaded with sand bags weighing 3,333 pounds, and seven men weighing 1,128 pounds also got on board, making 4,461 pounds in all. Even with this great load the boat was five and one-half inches out of water amidships. The boat was then unloaded, and the air-tight compartments were tested by capsizing the boat, but it was impossible to get it more than half full of water, as the compartments held it so high out of the water as to act on the principle of a self-bailer. The boat was then taken alongside the wharf and filled with water until the gunwale was flush with the surface, and then a man got on either end over the air-tight compartments. Still the boat did not sink, and as soon as it was cast loose it heeled over and emptied out one-half the water and then righted itself. The air-tight compartments were subsequently tested by being filled with water, and when the doors were screwed down the boat was rolled over and the compartments were found to be perfectly tight.

Obtaining Pure Chromic Acid by Electrolysis.—Two Frenchmen have patented a method of preparing pure chromic acid by the electrolysis of an alkaline salt. Their method consists in filling a vessel containing a porous cell with a solution of an alkaline chromate or bichromate. An unattackable electrode, such as platiuum or carbon, is placed in each vessel, the inner electrode being coupled to the negative and the outer to the positive pole of the source of electricity. On passing a current the alkali finds its way into the porous cell, and can be removed at intervals, fresh chromate being added to the outer vessel. When the chromic acid contained in the same is sufficiently concentrated, it is removed and allowed to crystallize out.

Messrs. F. Bayer & Co—18 Per Cent. Dividend.—The report of the Friedr. Bayer and Go., Dye Manufacturing Company, of Elberfeld, for 1893, says that the business of the concern during the latter half of the year suffered materially in consequence of the adverse industrial conditions and commercial disturbances which characterised the period. The effect on the company's business would have been still more observable had it not been that further advances in technical processes, the obtaining of new products, and engagement in additional branches of business enabled the company to increase its opportunities for profitable working. The treaty of commerce with Russia, it is added, will enable the company to again obtain a place for its productions in the Russian markets. An improvement in the conditions of trade in the United States will also do much for the company. The company has escaped serious fluctuations in the prices of its raw materials. A dividend of 18 per cent. has been declared for 1893, a similar dividend having been declared for 1892.

Market Reports.

TAR AND AMMONIA PRODUCTS.

Tar products generally are practically unaltered, owing to the intervention of the Whitsuntide holidays, temporarily suspending business. Benzols remain as last quoted. Carbolic acid and crystals are steady. Crude naphtha is still inclined to easy prices, but solvent keeps steady at 1s. 2d. Anthracene and pitch are without alteration

Sulphate of ammonia is decidedly firmer, and prices all round have hardened. Beckton value is £13 2s. 6d. London outside makes are fetching £13. 2s. 6d.; Liverpool and Hull are likewise quoted at the same figure. Leith is firm at £13. 7s. 6d. spot, with £13. 12s. 6d. firmly demanded for forward.

MISCELLANEOUS CHEMICAL MARKET.

There is little change to report in the position of any of the main products of the alkali trade. For bleaching powder a fair steady demand is maintained, and the price is firm at £7. 10s. at makers' works; £8. f.o.b. For caustic soda, demand is less active and stocks are fairly heavy. Prices, subject to usual variations, are: For 77%, £10. 15s.; 74%, £10.: 70%, £9.; and 60%, £8. Soda ash dull, and prices show no sign of recovery meantime: Alkali, 58%, £3. 2s. 6d. bags at makers' works; and £3. 15s. to £3. 17s. 6d. per ton f.o.b. Soda crystals (bags), £2. 5s. per ton, at works. Chlorate of potash, 7d. to 7¼d., according to quantity and period of delivery. Chlorate of soda, 8¾d. per lb. Sulphur, £3. 17s. 6d. at makers' works in bulk. Soda sulphites and hyposulphites still selling at easy rates. Borax: a dull market notwithstanding recent reduction of £23. per ton. Sulphate of copper, still in good demand at £15. 10s. f.o.b. Acetates of lime brown, £5. 10s. to £5. 15s c.i.f., and rather a firmer market. Grey firm, at £9. 15s. c.i.f. All other acetates and acetic acids quiet. Yellow prussiate of potash steady, at 10¼d. to 10½d. Potash, caustic, and carbonate in good demand, and prices are firm, with light stocks. Nitrate of soda slightly drooping at 9s. 9d. per cwt. Business in chemicals generally is reported quiet in all districts.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, Tuesday.

The outlook for sulphate of ammonia cleared up almost immediately after the despatch of last week's report, and the article has been steadily gaining strength ever since. Towards the close of the week the prompt price was a good £13. 5s., with forward at quite £13. 12s. 6d., but it has advanced appreciably since for prompt, being now over £13. 7s. 6d., some sellers holding, at the time of writing, that £13. 10s. is the true figure. Forward is steady at £13. 12s. 6d.

Mineral oils and praffins are very dull, but quotations are not openly made with any leaning to the fall, although suspicion is still abroad. American reports do not favour the Scotch market. The promised

nt between the American and Russian producers, with nying stiffening of prices, seems now less likely of realization, ntinuance of the deadly rivalry is regarded as being in store time longer—probably for an extended range of time.
neral chemicals the tone as regards new business is still ctory, although manufacturers are busy in the shipping ent with business already some time contracted for.
prices current are:—Soda crystals £2. 1s. nett, Tyne; 48/52° £3. 12s. 6d. to £3. 17s. 6d. nett, Tyne; white alkali 4 10s to £5. 5s. nett, Tyne; alum in lump £5. 10s. nett, Glasgow; soda, white, 74° £10., 70/72° £9., 60/62° £8. 2s. 6d., m 60/62° £7. 17s. 6d., all nett, Liverpool; bleaching powder ., nett, Tyne; saltcake, 17s. 6d.; borax, English refined, s., and boracic acid, £32. 10s. nett, Glasgow; bicarbonate of cwt casks, £6. 10s., and 1 cwt. casks £6. 15s. nett, Liverpool; ate of potash, 4½d. nett, for Scotch and English deliveries (for ¼d. nett, f.o.b. Glasgow); bichromate of soda, 3¾d. nett, for nd English deliveries (for export, 3½d. nett, f.o.b. Glasgow); of potash, 7¼d. less 5%, Liverpool; nitrate of soda, 10s. 3d.; of ammonia, £13. 8s. 9d. to £13. 10s. prompt, f.o.b. Leith; niac, first and second white, £39. and £37. nett, any port; of copper, £15. 10s., less 5% Liverpool; paraffin scale, hard 1⅞d. l. to 2d. per lb.; paraffin wax 120° semi-refined 2¾d. to 2½d.; spirit (naphtha), 3½d. to 4d. per gallon; paraffin oil (burning), No. 1 grade, 5d. at works, for Scotch buyers (English sales, ¾d. lower); ditto (lubricating) 865° £3. 10s. to £3. 15s.; . to £4. 15s., and 890/895° £4. 15s. to £5. 10s. Week's of raw sugar at Greenock were 60,982 bags.

THE METAL MARKETS.

DON, WEDNESDAY.—Pig iron, dull: Scotch warrants 41s. 10½d., Middlesbrough 35s. 5d. cash, and hematite 44s. 1d. steady: Chili bars, G.O.B.'s and G.M.B.'s, closed at s. 6d. to £40. 3s. 9d. cash, and £40. 7s. 6d. to £40. 12s. 6d. three Tin, easier: Straits closed at £72. 5s. to £72. 15s. cash, 3. to £73. 10s. three months; Australian, £72. 17s. 6d. ingots, £76. Lead, quiet: Spanish, £9. to £9. 1s. 3d.; £9. 2s. 6d. to £9. 3s. 9d. Silesian Spelter, ordinary, s. 6d. Nickel, 1s. 8½d. Antimony, £34. Quicksilver: First £6. 9s.; second hands, £5. 19s. *Copper shares*, quiet: Cape, ⅛; Copiapo, 1 1/16 to 1 1/16; Libiola, 3 to 3¼; Mason and Barry, ⅝; Rio Tinto, 14⅜ to 14¾; Tharsis, 4½ to 4¾.
VERHAMPTON, SATURDAY.—The iron trade has been New business has come to hand quietly. The makers of best report a better demand for forge and foundry iron. Raw iron r delivery over the quarter, but the demand for finished iron ed to limited quantities for early consumption; and, owing to munerative character of business, several works are to be n the market. Some good orders are booked for marked £7. 10s., and the best sales of other bar iron are made at £6. 5s. For hoops, angles, and structural iron there are ffers, and the sheet and plate makers have done a large business, s are not further favourable to producers. A heavy inquiry is for steel, and pig-iron contracts are satisfactory in weight. In and cokes a fair trade is moving.

VERPOOL OIL AND COLOUR MARKET.

.—The business done during the week has been small in all ities, as the market was closed for the first two days of the Current quotations have been as follows: Lagos firm, with £21. 5s., both ex quay and transit. Olive has been very quiet week's currencies. Linseed has ruled firm, and Liverpool export casks have advanced, standing at 22s. to 22s. 6d. per Cottonseed has been stationary at 21s. 6d. to 22s. for l refined. Castor oil has been rather dull, good seconds having sold on spot with difficulty at 2 5/16d. to 2¼d. per lb. ssure French is quoted 2 3/32d. per lb. Tallow is steady, North n being in rather better demand. Rosin has been without alteration as to position and price. Spirits of turpentine t on the rise, and are now quoted 23s. per cwt. Petroleum dull at 4¼d. to 5½d. for American, and 3⅝d. to 3¾d. per r Russian refined.
URS are steady without alteration in prices. Oxfordshire, common, £10., medium, £12., best, £15.; ire, common, 40s.; medium, 50s., best, 60s.; Welsh, best, onds, 50s., and common, 18s.; Irish, Devonshire, 40s. to ench, J.C., 55s. to 60s.; M.C., 65s. to 67s. 6d. Umber: quiet; Devonshire, 50s. to 55s. White lead, and oxide of zinc unchanged. Venetian red, £6. 10s. to £10. Cobalt: Prepared oxide, 9s. 9d.; black, 9s.; blue, 6s. Zaffres: No. 1, 3s. 6d.; No. 2, 2s. 6d. Oxide of iron: Common, £6.; medium, £10.; finest, £20. Zinc oxide, £23. to £25.

TYNE CHEMICAL REPORT.

TUESDAY.

Chemicals continue quiet, and without alteration as to prices. Shipments continue fairly good, and up to the average. Sulphur rather better, at £3. 17s. 6d. per ton; bleach, £7. 10s. per ton; 76/77% caustic, £10. 15s. per ton. Soda crystals, £2. 1s. and £2. 2s. 6d., locally.

Bleaching Powder, softs, £7. 10s. per ton, nett; hards, £7. 15s per ton, nett; caustic soda, 76/77%, £10. 15s. per ton, nett; do., 70%, £9. per ton, nett; recovered sulphur, 2 cwt. bags, £3. 17s 6d. per ton, nett; soda ash, 48%, £3. 12s 6d. per ton, nett; do., 52%, £3. 16s. 3d. per ton, nett; do, 56%, £4. per ton, nett; alkali, 36%, £2 15s. per ton, nett; white alkali, 48%, £4. 10s per ton, nett; do, 50%, £4. 15s. per ton, nett; do., 52%, £5. 5s. per ton, nett; hyposulphite of soda, 5-7 cwt. casks, £5. per ton, nett; do., 1 cwt. kegs, £5. 10s. per ton, nett; silicate of soda, 75° Tw., £2. 17s. 6d. per ton, nett; do., 100° Tw., £3. 12s. 6d per ton, nett; do., 140° Tw., £4. per ton, nett; soda crystals, casks, £2. 2s. 6d. per ton, gross weight; do., 2 cwt. bags, £2. 2s. 6d. per ton, nett; chlorate of potash, 7½d. per lb., less 6%; pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £4. 2s. 6d. per ton, nett; blanc fixe, £7. 10s. per ton, nett; chloride of barium, £7. 10s. per ton, nett; carbonate of alumina, £28. 15s. per ton, nett; aluminate of soda, £33. 15s. per ton, nett; in 5 ton lots, £28. 10s. per ton, nett.

South Durham Salt is firm, and scarce at 10s. per ton, f.o.b. Tees.

Coals: Business is quiet, and prices are a shade weaker. Best Northumbrian steam, 10s. per ton; second qualities, 9s. per ton; small steam, 4s 6d. and 4s. 9d per ton. Bunker coals dull, at 6s. 9d., and 7s. per ton for unscreened; ditto, best screened, 9s. and 9s. 6d. per ton. Gas coals easier, at 7s. per ton. Coke steady, at 13s and 14s. per ton.

New Companies.

Bertrand Rustless Iron and Enamelling Syndicate, Limited.—CAPITAL, £6,000. in shares of £1. each. This company has been formed to acquire interest in certain patents for forming magnetic oxide of iron on the surface of wrought and cast iron to prevent rusting.

British Aluminium Company, Limited.—CAPITAL, £100,000, in shares of £10. each. This company has been formed to acquire clays and minerals suitable for the manufacture of aluminium, sodium, and iron, and to produce and deal in the same. The subscribers to the memorandum of association are:—C. F. Jones, The Maples, Gleneagle-road, S.W., gentleman; N. Pettimalti, Earl's-court, S.W., clerk; R. Widenham, 116, Percy-road, W., agent; J. W. Chew, 7, Victoria-street, S W., secretary; C. W. Jones, 32, Great George-street, S.W., surveyor; V. Lambley, Fulham, clerk; A. R. H. Belcher, 21, Borringdon-road, Fulham, gentleman; T. West, 18, Rodney-terrace, Putney, gentleman.

S. Schwabe and Co., Limited.—CAPITAL £150,000, in shares of £10. each. This Company has been formed to acquire the undertaking, property, and assets of the business hitherto carried on under the style of S. Schwabe and Co., at 41, George-street, Manchester, and 39, Gutter-lane, London, E.C.; and to carry on business as bleachers, dyers, printers, and finishers of and dealers in cotton, calico, linen, silk, and textile fabrics of every description. The subscribers to the memorandum of association are:—Colonel G. S. Schwabe, 3, Upper Belgrave-road, Clifton, Bristol; F. S. Schwabe, Rhodes House, Rhodes, near Manchester; J. H. Macmillan, High Bank, Prestwich, Manchester; P. Nicholson, 29, Hawthorn-grove, Heaton-moor, Stockport; H. G. Pasley, 132, Barton-road, Didsbury, Manchester; L. Tatham, 1, St. James'-square, Manchester; S. Mosley, Spring-gardens, Manchester.

The Julia-Taltal Nitrate Co, Limited.—CAPITAL £200,000., in £1. shares. This Company has been formed to acquire the undertaking, assets, and liabilities of the Julia Nitrate Company, Limited (now in liquidation), and to carry on business as manufacturers of iodine, nitrate, &c., and as chemical manufacturers generally. The subscribers to the memorandum of association are:—H. W. Carter, 47, Billiter-buildings, E.C.; J. W. Anderson, 110, Cannon-street, E.C.; D. Macdonald, 110, Cannon-street, E.C.; A. F. Paice, 24, South Park-hill-road, South Croydon; W. Vincent, 110, Cannon-street, E C.; F. Simpkins, 325, Crystal Palace-road, Dulwich, S.E.; W. C. Croome, 9, Gracechurch-street, E.C.

Derby Oxide and Colour Company, Limited.—Capital, £25,000., in 2,200 ordinary and 300 deferred shares of £10. This company has been formed to acquire the business of colour, paint, and varnish makers, and to carry on the same at Derby. The subscribers to the memorandum of association are:—A Butterworth, 339, Moorgate, Derby, grocer; W. Start, 5, Irongate, Derby, C.A.; J. Cooper, Sunny Hill House, Normanton; E. Partridge, 110, Osmaston-road, Derby, auctioneer; B. Cooper, 9, North-street, Derby, colour manufacturer; F. P. Evans, 34, Otter-street, Derby, manager; G. Staton, Arthur-street, Derby, colour manufacturer.

Messrs. Hewitt. Renshaw & Co., Limited.—Capital, £25,000., in £10. shares. This company has been formed to acquire mineral estates in England and elsewhere, and to trade as brine pumpers, chemical and salt manufacturers The subscribers to the memorandum of association are:—Jno. Hewitt, Overhouse, Cheshire, estate agent; H. P. Hewitt, Overhouse, Cheshire, estate agent; J. Renshaw, Manor Croft, Northwich, Cheshire, brick manufacturer; M. Holland, 17, Queen-street, Northwich, shop manager; W H. Renshaw, 6, Witton-street, Northwich, shoe manufacturer; T. Renshaw, 140, Witton-street, Northwich; S Tench, Magdala-place, Northwich.

Gazette Notices.

PARTNERSHIPS DISSOLVED.

J. Dodson and J. Horsfall, dyers, Elland, under the style of Joshua Dodson and Sons

B. C. Tipper and L. C. Tipper, cattle food and oil-cake manufacturers, Birmingham, under the style of B. C Tipper and Son.

The Patent List.

This list is compiled from Official sources in the Manc Technical Laboratory, under the immediate supervisio George E. Davis and Alfred R. Davis, who report professio upon the value of Chemical Patents.

APPLICATIONS FOR ENGLISH LETTERS PATENT

Obtaining Oxygen. H. J. P. Sprengel. 8,528. April 30.
Manufacture of Phenol Alcohols, H. E. Newton. 8,544. April 30.
Improvements in Drying and Evaporating Apparatus. C. G. J. Möll P. Pfeiffer. 8,545. April 30.
Bleaching Fibrous Materials. E Cadoret and A. Yost. 8,558. April
Improvemeuts in Lixiviating Barks, Dyewoods, etc. C. L. W. A 8,643. May 1.
Manufacture of Vinegar. R. H. Leaker. 8,652. May 2.
Improved Filtering and Precipitating Apparatus, etc., for Tre Sewage. F. P. Candy. 8,671. May 2.
Improved Dry Soap. W. H. Horton. 8,676. May 2.
Apparatus and Process for the Manufacture of Potassium Chlorat Fielder. 8,690. May 2.
Alloys of Copper and Manganese. J. Brock and J. F. Allen. 8,712.
Carburetting Coal and Other Gases. J. H. Hilton. 8,851. May 4.
Manufacture of Superphosphates. F. W. Saatman. 8,887. May 4.
Manufacture of Cyanides of the Alkaline Metals O. Imray 8,889.
Apparatus for Coating with Tin, Lead, etc. H. F. Taylor. 8 899.
Improved Apparatus for the Electro-deposition of Metals. H. Alex 8 9 7. May 4.
Bleaching Paper Pulp, etc. J. W. Abom. 8,964. May 5.
Improved Manufacture of Detergents. B. Weigel and J. Hands May 5.
Manufacture of Gas. T. G. McEwen. 8,974. May 5.

IMPORTS OF CHEMICAL PRODUCTS AT THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending May 5th.

Acetate of Lime—
U. States 192 pkgs. Lister & Briggs
Acetic Acid—
Holland, 2 pkgs. Beresford & Co.
Acetone—
Holland, 20 pkgs. A. & M Zimmermann
Alkali—
France, 340 c. Arnati & Harrison
U. States, 230 c. Charles & Fox
Germany, 4 pkgs. H. Lambert
Alum—
Germany, 13 pkgs Ohlenschlager Brs.
Holland, 31 H. Wallace & Co.
Aluminium—
Belgium, 1 t. Major & Field
Ammonia—
Holland, 12 pkgs Little & Johnston
Ammonium Chloride—
Holland, 20 pkgs H. Lorenz
,, 4 Kaltenbach & Schmitz
Anthracene—
Holland, 175 pkgs. Burt, Boullon, & Co.
Antimony—
N. S. Wales, 47 t. Vivian Younger & Co.
Antimony Ore—
Germany, 10½ t. L. & I. D. Jt. Co.
Australia, 47 Vivian, Younger & Co.
Arsenic—
Germany, 37 pkgs. P. Jantzen
Asbestos—
Italy, £75 Mory & Co.
,, 680 Brit Asbestos Co.
,, 225 London Asbestos Co.
France, 62 Mory & Co.
U. States, 400 Beck & Pollitzer
Japan, 62 China & Japan Trading Co.
Barium Chloride—
Germany, 5 cks. Petri Bros.
Barytes—
Germany, 38 cks. Burrell & Co.
,, 19 P. Jantzen
Belgium, 101 W. Harrison & Co.
,, 4 J. L. Lyon & Co.
,, 19 P. Jantzen
,, 41 Hemingway & Co
Bauxite—
France, 384 pkgs Alum China Clay Co.
Borate of Lime—
Persia, 241 pkgs. M. D Co.
Bleaching Soda—
Germany, 106 c. H. Lambert
Boracic Acid—
Germany, 34 pkgs F. Boehn
Camphor—
Japan, 104 tbs. T. Merry & Son
,, 24 cs. N. S. S. Co.
,, 240 tbs. R. & J. Henderson
,, 63 pkgs. S Figgis & Co
Hong Kong 200 ,,
Germany, 81 R. & J. Henderson
,, 198 Krayer, Back, & Co
Caoutchouc—
E. Indies 116 c. Huttenbach & Co.
,, 29 Forbes. Forbes, & Co.
,, 110 Prop Bull Wf.
,, 183 E. Boustead & Co.
Zanzibar 16 L. & I. D Jt. Co.
Madagascar 80 F. Chauthard & Co.
Germany, 160 W. Balchin
France, 20 H. Johnson & Sons
,, 4 Mess. Parisiennes
Rangoon, 267 L. & I. D. Jt. Co.
U. States, 18 Stiebel Brs.
Castor Oil—
E. Indies, 87 cks. Ross & Deering
,, 32 Cayzer, Irvine, & Co,
Italy, 35 cs. Stebbing & Co.
,, 5 Langton, Eddon & Co.
,, 5 R Quincey & Sons
France, 50 pkgs Beresford & Co.
,, 29 brls. Fuerst Brs.
,, 30 Lucas & Spencer's Wf. Ld
,, 25 J. T. Morton
Belgium, 30 Burrell & Co.
,, 5 brls. 60 pkgs. Furest Brs.
Caustic Potash—
France, 200 c. F. W. Berk & Co ,Ld.
Belgium 96 Petri Brs.
France, 100 Carron Co
Chemicals (*otherwise undescribed*)
Germany, 43 pkgs. T. H. Lee
,, 15 Phillips & Graves
,, 50 A. & M. Zimmermann
,, 17 10 cs. Craven & Co.
,, 2 L. & I. D. Jt. Co.
Holland, 34 E. Merck
,, 78 C. Tennant, Sons, & Co.
,, £10 Lietz & Co
,, 10 L. C. & D. Ry.
Norway, 29 pkgs. W. H. Smith
Chrome Ore—
Syra, 2 t. James & Shakespeare
Citrate of Lime—
Italy, 10 pkgs. B. Jacob & Sons
Cream of Tartar—
Holland, 24 pkgs. Kirkpatrick & Co.
France, 10 M. Ashby Ld
,, 20 H. W. Peabody & Co.
,, 5 W. C. Bacon & Co.
Spain, 2 ,,
,, 2 B. & F. Wf Co
Italy, 20 Howards & Sons
Dextrine—
Germany, 8 pkgs. B. & N Wf. Co.
,, 50 H. Lorenz
,, 200 Hernu. Peron, & Co.
,, 50 Prop. Chmbln.'s Wf.
Holland 20 Pronk, Davies, & Co.
Dyestuffs—
Annatto
Denmark, 5 pkgs. R. G. Fullwood
Ceylon, 19 Hoare, Wilson & Co.
Argols
Italy, 20 pkgs. Thames S. T & L. Co., Ld.
Spain, 558 B. Jacobs & Sons
Italy, 690 ,, ,,
Cutch
Rangoon, 1000 pkgs. Arrocan Co.
,, 2797 A. Howden & Co.
,, 2660 Leach & Co.
,, 50 H. A. Litchfield & Co.
Extracts
Austria, 600 pkgs. A. J Humphrey
France, 148 B & F. Wf. Co.,
,, 20 Beresford & Co.
,, 50 Union L. Co.
U. States, 100 Skilbeck Brs.
Denmark, 1 Sorenson & Co.
,, 1 J. Sinclair & Sons
Holland. 1 A. G. Robinson & Co
Gambier
E. Indies, 933 pkgs. Perkins & Homer
,, 1121 Adamson, Gilfillan, & Co
,, 2880 R. & J. Henderson
,, 493 Brinkman & Co.
,, 422 Ross & Deering
,, 2247 G. Ward & Sons
,, 206 Butler's Wf., Ld.
,, 457 Beresford & Co.
,, 1141 L. & I. D. Jt. Co.
Indigo
E. Indies, 3 chts. L. & I. D.
,, 107 R. Von Glehn
,, 49 Ross & I
,, 10 Forbes, Forbes
,, 14 Deutsch
,, 33 Arbuthnot, I
,, 10 Croysdal
,, 6 Eales & Rut
Germany, 6 T.
Logwood
Jamaica, 49 t. Anderson, An
B. Honduras 60 Clyde
,, 283 Belize Est
Jamaica 13 Park, Macfadyer
Myrabolams
E Indies, 1366 pkgs. J P. Alp
,, 2 732 Brown & Elm
,, 4,079 L. & I. D.
,, 2,729 A.
,, 1,947 J.
,, 603 Benecke, S
,, 25 Lewis
Sumac
Italy, 950 pkgs. J. Kitch
,, 850 J.
,, 200 H. Johnston
,, 125 Bailey & L
Tanners' Bark
Belgium, 11 t. Leach
Turmeric
E Indies, 344 pkgs. L. & I. D
,, 217 S. Figgi
,, 100 Anderson, W
China, 426 Chauthard & C
,, 3 Prop. S
Cochin 138 Union L.
Valonia
A. Turkey, 25 t. Leac
,, 288 A. & W.
,, 13 Beresfor
Dyestuffs (*otherwise undes*
Holland, 18 pkgs. J
Glucose—
Germany, 25 pkgs. 202 c. Jone
,, 50 460 R
,, 300 300 J.
France, 104 104 J.
,, 200 200 Pr
m

U. States, 500 500 G. Hedges & Son
" 365 366 R. G. Hall & Co.
" 1,250 1,250 Barrett, Tagant & Co.
" 1,535 4,502 L. Sutro & Co
" 510 510 B. & N. Wf. Co.
" 975 5,362 Prop Chmblns Wf.
" 400 2,200 F. J. Warner
" 1,005 1,005 J. Barber & Co.
" 200 1,230 Un Lgte Co., Ltd.
" 100 600 Deering & Robottom
" 2,989 2,989 T. M. Duche & Sons
" 1,039 1,039 Fellows, Morton & Co.
" 15 75 Beck & Pollitzer
" 200 200 H Hughes
" 100 600 Fuerst Bros.

Infusorial Earth—
Germany, £33 W. Byford
" 50 T. H. Lee
" 45 C. J. Capes & Co.

Lead Acetate—
Germany, 31 pkgs. Bereford & Co.
France, 10 F. Smith

Manganese—
Australia 360 t. Harrold Bros.

Manure—
E. Indies, 62 t. A. Hunter & Co
" 820 Fox, Roy & Co.
Belgium, 450 Anglo Cont. Guano Wks.
Germany, 72 Anglo Cont. Guano Wks.
" 10 Beresford & Co
" 51 Perkins & Homer
Peru, 2,300 W Montgomery & Co.
France, 166 J. Burnett & Sons

Methyl Alcohol—
Germany, 11 dms. Stein Bros.

Mica—
E. Indies, £184 W. M. Smith & Sons

Ochre—
France, 185 pkgs. W. Harrison & Co.
" 50 Magee, Taylor & Co.
Holland, 9 Phillipps & Graves

Paraffin Wax—
U States, 1,587 brls. Anglo-Amer. Oil Co.
" 155 H. Hill & Sons
Rangoon 495 cs " "

Phosphate Rock—
France, 110 t. Odam's Chemical Manure Co.
Belgium, 200 D de Pass & Co.
" 170 J. Gibbs & Co.
" 50 Anglo Cont. Guano Wks.

Plumbago—
Ceylon 396 brls. R G. Hall & Co.
" 345 J. Thredder, Son, & Co.
Holland, 2 cks. B. Gallaway
France, 3 T. H. Lee
Ceylon, 110 brls. L. & I. D. Jt. Co.
" 110 Beresford & Co

Potash—
Germany, 21 c Petri Brs.

Potassium Carbonate—
France, 182 c. J. A. Reid
Germany, 128 F. Boehm

Potassium Oxymuriate—
France, 100 pkgs. G. Boor & Co.

Potassium Permanganate—
Holland, 5 pkgs. E Merck

Potassium Sulphate—
France, 52 pkgs. Mead, Son, & Co.
Germany, 50 F. W. Berk & Co.

Pumice Stone—
Italy 4 t. O'Hara & Hoar
" 1½ G. S. N. Co.
" 5 Bailey & Leetham
" 9 c. R. McCracken & Co.
" 35 G. W. Largen

Pyrites—
Spain, 1111 t. Naylor, Benzon, & Co.

Resin—
U. States, 100 brls. H. Hill & Sons
" 642 F & S. Chiesman & Co.

Saltpetre—
Germany, 45 cks. Wimble & Co.

Soda—
Germany, 70 c. H. Lambert

Sodium Hyposulphite—
Holland, 131 pkgs F. Boehm

Sodium Sulphate—
Belgium, 65 pkgs. Union L. Co.
Holland 30 Kaltenbach & Schmitz

Starch—
Belgium 180 pkgs. Leach & Co.
" 340 Prop. Scott's Wf.
" 120 T. H. Lee
" 200 Sawer, Sons, & Co.
" 60 F. Rosenthal & Co.
Holland, 40 J. Barber & Co.
" 524 Little & Johnstone
" 20 G Rahn & Co
" 450 A. Starch
" 111 G. Dardis
" 20 Phillipps & Graves
Germany, 34 " "

Stearine—
Germany, 50 bgs. H. Hill & Sons
Belgium, 67 " "
France, 100 Walbaum & Tosetti
" 100 Beresford & Co.
" 100 J. Goddard & Co.

Sulphur—
Italy, 100 t Soundy & Son
" 9 J. Houghton & Sons
" 59 G. Boor & Co.
" 5 C. J. Capes & Co.
" 5 J. Kitchin, Ld.
" 18 F. Smith
" 10 F. C. Devon & Co.
" 5 T. T. Creed
Belgium, 30 Fuerst Bros.
" 26 Davis & Soper
Italy, 125 W. C. Bacon & Co.
Carthagena 100 "
" 100 A. Hunter & Co.

Tallow and Stearine—
U. States, 177 cks. Allan Brs. & Co

Tartaric Acid—
Holland, 20 pkgs. Kirkpatrick & Co.
" 11 B. & F. Wf. Co

Tin Chloride—
Holland, 4 pkgs. H Lambert

Turpentine—
N. Russia, 25 brls. Chiesman & Co

Ultramarine—
Germany, 4 cks. H. Lambert
Holland, 2 Hernu, Peron, & Co.
" 11 cs. Hæffner, Hilpert, & Co.
Belgium, 5 W. Harrison & Co.
" 4 brls. 19 pkgs. Leach & Co

Varnish—
Belgium, 1 pkge. Leach & Co.
" 3 pkgs. T. H. Lee
U. States, 35 Pinchin, Johnson, & Co.

Verdigris—
France, 4 cks. C. F. Gerhardt

White Lead—
Germany, 39 cks. Spies Bros. & Co.
" 52 T. H. Willoughby
" 38 Colthurst & Harding
" 45 M. Ashby, Ld.
" 41 D. Storer & Sons
" 20 A. Zumbeck & Co.
" 26 Burrell & Co.
Holland, 20 Blundell, Spence & Co.
Belgium, 14 Colthurst & Harding
" 9 brls. D. C. Thomas & Sons
France, 46 cks. W. Harrison & Co.

Wood Pulp—
Germany, 66 pkgs. H. Lambert
" 203 W. Friedlander
" 1,040 E. J. & W. Goldsmith
Norway, 505 "
" 250 L. Kloblauch
" 200 C. Christophersen & Co.
" 652 W. G. Taylor & Co.
Portugal, 150 "
" 500 Horne & Co.
Sweden, 203 W. G. Taylor & Co.
" 960 Moreton Cox Brs.
" 476 C S. Lovell
Spain, 2,861 Tough & Henderson
Norway, 700 "
Egypt, 24 M. Dk. Co.

Zinc Oxide—
Holland, 500 cks. Soundy & Sons
" 33 J. Matton
" 75 brls. M. Ashby, Ltd.
" 100 pkgs. Burrell & Co.

LIVERPOOL.

Week ending May 3rd.

Ammonium Hydrate—
Rotterdam. 4 cks.

Aniline Oil—
Syra, 6 brls. J. Taylor & Co

Antimony—
Hamburg, 3 cs

Barytes—
Antwerp, 27 cks.

Bone Meal—
Bombay, 2,500 bgs.

Boracic Acid—
Leghorn, 12 cks. Pickford & Co.
" 31

Castor Oil—
Marseilles, 30 brls. J. R. Rhodes & Co.
" 6 cks. O. Moore
Leghorn, 20 cs.
Calcutta, 500 Ralli Brs.
" 335
Coconada, 475 cks.

Cellulose—
Trieste, 1,919 bls.

Chemicals *(otherwise undescribed)*
Sette Cama, 1 cs. 1 cht. W. F. Wilson

Chrome Ore—
Baltimore, 6 brls.

Colours—
Boston, 1 brl. Musson & Co.
Rotterdam, 2 cks.
Hamburg, 1 cs.

Copper Chloride—
Rotterdam, 2 cks.

Cottonseed Oil—
New York, 682 brls.
N. Orleans, 25

Cream of Tartar—
Rotterdam, 2 cks.

Disinfectants—
Hamburg, 1 ck.

Dyestuffs—
Algarobilla
Valparaiso, 126 bgs. J. Caro & Co.
Argois
Bordeaux, 33 cks.
Cochineal
Gr. Canary, 20 bgs Celallos & Co.
Cutch
Rangoon, 9 042 bxs.
Extracts
Fiume, 279 brls DeClermont & Donner
" 178
Trieste, 300 Oak Extract Co.
New York, 25 bxs.
Baltimore, 50 brls. Mucklow & Co.
Fustic
Corfu, 5 t.
Vera Cruz, 792 ps. 511 lgs. R. B. Watson & Co.
" 2,987 5,511 blks. Ledward. Bibby & Co.
Indigo
Calcutta, 14 chts.
Logwood
Belize, 160 t. E. Chaloner & Co.
Madder
Rotterdam, 11 cks.
Myrabolams
Bombay, 10 824 bgs.
Coconada, 683
Bimliptam, 5,197
Sumac
Trieste, 178 bgs.
Palermo, 250 25 bls.
Turmeric
Bombay, 179 bgs.

Dyestuffs *(otherwise undescribed)*
Boston, 64 pkgs. Higgin, Lloyd & Co.

Farina—
Fiume, 524 bgs. Manchester Ship Canal Co.
" 150 C. J. Vander Veen & Bro.
" 279 Becmel & Brasch
" 350

Glucose—
New York, 150 brls.

Iodine—
Valparaiso, 11 brls. W. & J. Lockett
" 22 A. Gibbs & Sons
" 23

Lime—
Bahia, 2 bgs. Millward & Bradbury

Limestone—
Antwerp, 1 crt. J T. Fletcher & Co.

Linseed Oil—
Patras, 3 brls.

Mineral—
Vera Cruz, 2,404 bgs. Bessler, Waechter & Co.

Mineral White—
Trieste, 100 bgs. E & R. Fanta
" 200 F. Parisi
" 100 Manchester Ship Canal Co.

Ochre—
Marseilles. 63 cks.
Newport News, 3,041 brls.

Paint—
Hamburg, 63 cks.
Havre, 3 cs. Cunard S S. Co., Ld.

Phosphate—
Dunkirk, 500 bgs.

Pitch—
Amsterdam, 60 cks.

Potash—
Dunkirk, 41 dms 1 ck.

Potassium Sulphate—
Hamburg, 500 bgs.

Pumice Stone—
Leghorn, 17 cks. 93 bls.
Messina, 40 cs. 20 bgs.

Rosin—
Hamburg, 1 ck.
Ceara, 13 bgs. Gunston, Sons & Co.
" 8 Leite, Havenith & Co.

Saltpetre—
Hamburg, 4 cks. 33 kgs.

Soap—
New York, 465 brls. Morris Beef Co.
Amsterdam, 3 cs.
Bari, 146
Antwerp, 1 bx.

Soapstone—
Genoa, 180 bgs.
Trieste, 100 W. Harrison & Co.

Starch—
Amsterdam, 80 bxs
Antwerp, 210 cs. J. T. Fletcher & Co.
Rotterdam, 63

Stearine—
Bordeaux, 40 bgs.
New York, 25 hds.
Antwerp, 52

Sulphur Ore—
Huelva, 1,444 t. Matheson & Co

Talc—
Genoa, 50 bgs. G. H. Fletcher & Co.
Trieste, 30 G. Boccardo
" 50 E. R. Fanta

Tallow—
New York, 10 kgs. H. Archer
Zarate, 251 pps. 83 brls. J. Nelson & Sons, Ltd.
Baltimore, 100 brls.

Tar—
Boston, 30 brls.

Tartar—
Bordeaux, 7 cks.

Ultramarine—
Hamburg, 4 cks.

Varnish—
Patras, 1 cs.

Verdigris—
Bordeaux, 2 cks.

White Lead—
Rotterdam, 20 cks.
Antwerp, 18

Wood Pulp—
Gothenburg, 100 bls. T. E. Faulzer
Rotterdam, 114

Zinc Oxide—
Antwerp, 60 brls.
Rotterdam, 25 cs.

Zinc Skimmings—
Baltimore, 29 brls. 31 sks. Wine Chemical Co.

Zinc White—
Hamburg, 6 cks
Rotterdam, 150 O. & H. Marcus

MANCHESTER.

Week ending May 5th.

Carbonic Acid—
Rotterdam, 18 tubes Simpson, Howden & Co.

Colours—
Rotterdam, 68 cks. 28 cs. Simpson, Howden, & Co.
,, 37 14 cs. 9 brls.
Treport, 8 2
Antwerp, 9 8 4

Dyestuffs—
Alizarine
Rotterdam, 6 cks Simpson, Howden, & Co.
,, 73 brls. 1 cs.
Extracts
Treport, 10 cks.
Bordeaux, 50 J. & P. Hutchinson
Indigo
Rotterdam, 8 chts. Simpson, Howden, & Co.
Logwood
Morant Bay, 471 t.

Farina—
Rotterdam, 500 bgs. Simpson, Howden, & Co.

Limestone—
Antwerp, 2 crts 3 cs.

Litharge—
Rotterdam, 15 cks.

Ochre—
Treport, 9 cks.

Oxalic Acid—
Rotterdam, 19 cs. Simpson, Howden, & Co.

Pitch—
Rotterdam, 18 cks.

Potash—
Rotterdam, 114 cks. Simpson, Howden, & Co
Treport, 5
Bordeaux, 7 J. & P. Hutchinson
Antwerp, 41 dms.

Pumice Stone—
Rotterdam, 15 cs. Simpson, Howden, & Co.

Starch—
Antwerp, 245 cs.

Tartar—
Bordeaux, 1 ck. J. & P. Hutchinson

Tartaric Acid—
Rotterdam, 8 cks. Simpson, Howden & Co.

Wood Pulp—
Rotterdam, 23 bls. Simpson, Howden, & Co

Zinc Oxide—
Rotterdam, 50 brls.
Antwerp, 30

HULL.

Week ending May 5th.

Acetic Acid—
Rotterdam, 20 bkts. Hutchinson & Son

Acid—
Rotterdam, 20 botls. W. & C. L. Ringrose

Alum—
Hamburg, 1 ck. Bailey & Leetham

Asbestos—
Genoa, 18 pks. Wilson, Sons, & Co., Ld.

Barytes—
Antwerp, 22 cks. Bailey & Leetham
,, 89 H. F. Pudsey
Bremen, 10

Carbolic Acid—
Rotterdam, 50 tubes Wilson, Sons, & Co., Ld.

Castor Oil—
Leghorn, 16 cs. Wilson, Sons, & Co., Ld.
Genoa, 80 ,,

Chemicals *(otherwise undescribed)*
Danzig, 30 kgs.
Bremen, 4 pks. Veltmann & Co.
Rotterdam, 3 cks. Hutchinson & Son
Antwerp, 268 pks Wilson, Sons, & Co., Ld.
Dunkirk, 50 ,,

Colours—
New York, 20 kgs. Wilson, Sons & Co., Ltd.
Stettin, 10 cks. ,,
Flushing, 29 cks. 11 cs. Hutchinson & Son
Rotterdam, 16 2 14 pks. ,,
,, 2 Storry, Smithson & Co.
,, 5 cs. 15 47 pks. 5 cs. W. & C. L. Ringrose
Hamburg, 19 cks. Bailey & Leetham
Bremen, 11 pks. J. Pyefinch & Co.
Hamburg, 3 cks. Wilson, Sons, & Co., Ld.
Antwerp, 19 ,,

Cottonseed Oil—
New York, 200 brls. Wilson Sons, & Co., Ld.

Cryolite—
Copenhagen, 1 ck. Wilson Sons, & Co., Ltd.

Dextrine—
Stettin, 50 bgs. Wilson, Sons, & Co., Ld

Dyestuffs—
Alizarine
Rotterdam, 16 pks. 50 cks. W. & C L. Ringrose
Madder
Rotterdam, 3 cks.
Valonia
Smyrna, 226 t.

Farina—
Stettin, 150 bgs. Wilson, Sons, & Co., Ld.
,, 50
Ghent, 336 cs. ,,
Harlingen, 625 bgs.
Hamburg, 100 ,,

Glucose—
New York, 697 brls.
Stettin. 200 bgs.
Rotterdam, 50 Hutchinson & Son
New York, 250 brls. Wilson, Sons, & Co., Ld.

Guano—
Kroksholm, 120 t. Hart Bros.

Kaolin—
Rotterdam, 257 bgs. Reckitt & Sons

Lime—
New York, 793 bgs. Wilson, Sons, & Co., Ld.

Litharge—
Rotterdam, 7 cks. Hutchinson & Son

Manure—
Ghent, 203 t. Wilson, Sons, & Co., Ld.

Ochre—
Rouen, 10 cks.
Marseilles, 20 Wilson, Sons, & Co., Ltd.

Oxalic Acid—
Rotterdam, 11 cks. Bailey & Leetham

Paint—
Boston, 103 cs. Wilson, Sons, & Co., Ld.
New York, 1 brl. ,,

Paraffin Wax—
New York, 592 pks. Wilson, Sons, & Co., Ld.

Phosphate—
Ghent, 1,515 bgs. Wilson, Sons, & Co , Ld.

Phosphate of Lime—
Dunkirk, 200 t.

Phosphorus—
Hamburg, 49 cs. T. F. Bell & Co.

Pitch—
Dunkirk, 19 cks. Wilson, Sons, & Co., Ld.

Pumice Stone—
Hamburg, 4 cs.
Leghorn, 26 pks. Wilson, Sons, & Co., Ltd.
Antwerp, 10 bgs. ,,

Rosin—
Rotterdam, 2 cks. W. & C. L. Ringrose

Salt—
Hamburg, 823 bgs.

Soap—
New York, 2 pks. Wilson, Sons, & Co., Ld.
Naples, 20 cs. ,,
Marseilles, 12 ,,
Hamburg, 30 kgs. ,,

Sodium—
Rotterdam, 112 brls. Hutchinson & Son

Sodium Nitrate—
Antofagasta, 10,148 bgs.

Starch—
Rotterdam, 240 cs. Hutchinson & Son
Antwerp, 200 ,,
Bremen, 3,052 Veltmann & Co.
Rotterdam, 87 W. & C. L. Ringrose

Stearine—
Antwerp, 26 bgs.

Tallow—
Boston, 123 tcs. Wilson, Sons, & Co., Ltd
New York, 144 ,,

Tar—
Rotterdam, 1 brl. Hutchinson & Son

Tartar—
Marseilles, 5 cks. Wilson, Sons, & Co., Ltd.

Tartaric Acid—
Rotterdam, 6 cks. Hutchinson & Son
,, 2 W. & C. L. Ringrose

Turpentine—
Libau, 52 brls.

Ultramarine—
Rotterdam, 5 cks. Hutchinson & Son

White Lead—
Cologne, 71 cks.
Antwerp, 21 Bailey & Leetham
Rotterdam, 12 cks. Hutchinson & Son

Wood Pulp—
Hango, 165 bls J. Good & Sons
,, 268 Furley & Co.
Hamburg, 66 Wilson, Sons, & Co., Ld.
Norrkoping, 240 Bailey & Leetham

Zinc Oxide—
Rotterdam, 5 cs. Hutchinson & Son

Zinc White—
Cologne, 10 cks.
Stettin, 8

GLASGOW.

Week ending May 10th.

Acetate of Lime—
New York, 391 bgs.

Alum—
Rotterdam, 38 cks, J. Rankine & Son

Alumina Sulphate—
Rotterdam, 17 cks. J. Rankine & Son

Asbestos—
Portland Me, 3 bgs.

Barium Sulphate—
Antwerp, 21 cks.

Barytes—
Rotterdam, 46 pkgs.

Castor Oil—
Antwerp, 57 cks.

Colours—
Rotterdam, 4 cs. 1 brl. J. Rankine & Son
,, 23 pkgs.
Hamburg, 2 cks.

Dyestuffs—
Alizarine
Rotterdam, 1 ck. 2 brls. 1 cs. J. Rankine & Son
,, 83 pkgs.
Extracts
Rouen, 10 cks.
Antwerp, 10
Baltimore, 25 brls.
Fustic
Jamaica. 344 t. 15 c. M'Arthur, Scott, & Co.
Logwood
Jamaica, 491 t. M'Arthur, Scott & Co.

Farina—
Antwerp, 1 bg.

Glucose—
New York, 250 brls.

Guano—
Onundarfjord, 703 cks. J. T.

Gypsum—
Rouen, quantity.

Lead Acetate—
Hamburg, 27 cks.

Nitrate—
Rotterdam, 6 cks. J.

Ochre—
Rouen, 33 cks.

Painters' Colours—
Antwerp, 2 cks.

Phosphates—
Ghent, 1,000 bgs.

Potash—
Rotterdam, 20 cks. J. R

Rosin—
New York, 1,200 brls.
Baltimore, 1,700

Saltpetre—
Antwerp, 122 cks.

Soap—
Philadelphia, 450 bxs. 13 crts.

Sodium Acetate—
Rouen, 15 cks.

Starch—
Portland Me, 20 bxs.
New York, 200 bgs.
Antwerp, 12 cks.

Tallow—
New York, 445 tcs. 30 hhds.
Philadelphia, 5
Melbourne, 20 pps. Wm. B
,, 128 J. Ferguson

Varnish—
New York, 1 cs.

Waste Salt—
Hamburg, 315 t.

White Lead—
Rotterdam, 30 cks. J. Rank

Wood Pulp—
Christiania, 1,683 bls.

Zinc Oxide—
Antwerp, 20 cks.

TYNE.

Week ending May 5th.

Barytes—
Antwerp, 202 bgs. Tyne S. S

Colours—
Rotterdam, 1 ck. Tyne S. S
Hamburg, 4 pkgs. ,,

Farina—
Hamburg, 50 bgs. Tyne S. S

Glucose—
New York, 99 brls.

Limestone—
Antwerp, 2 crts. Tyne S. S

Paint—
New York, 10 cs.
Hamburg, 5 Tyne S. S

Phosphate—
Antwerp, 220 t. Langu
Chmcl. Manure
,, 525 bgs. Tyne S. S.

Pyrites—
Huelva, 54 t. 3 c.

Rosin—
New York, 900 brls.

Saltpetre—
Hamburg, 3 cks. Tyne S. S.

Starch—
Rotterdam, 60 cs. Tyne S. S.

Stearine—
Antwerp, 7 bgs. Tyne S. S.

Tallow—
New York, 50 hhds.

Tartaric Acid—
Rotterdam, 4 cks. Tyne S. S.

Ultramarine—
Rotterdam, 1 cs. Tyne S. S.

Pulp—
iania, 50 bls.
urg, 78 Tyne S. S. Co.

GOOLE.

Week ending May 2nd.

Acid—
erp, 10 cbys.
—
, 15 cks.
ony—
gne, 10 cks.

Dyestuffs—
Alizarine
Rotterdam, 523 pkgs.
Extracts
Ghent, 100 cks.
Madder
Rotterdam, 4 cks. 1 pkge.
Dyestuffs (*otherwise undescribed*)
Boulogne, 11 cks. 3 cs. 4 pkgs
Farina—
Hamburg, 1,420 bgs.
Delfszyhl, 590

Glucose—
Hamburg, 10 cks 20 kgs
Dunkirk, 100 bgs.
Naphtha—
Hamburg, 10 cks.
Potash—
Calais, 9 cks.
Dunkirk, 30 dms.
Antwerp, 8
Saltpetre—
Rotterdam, 285 bgs.
Waste Salt—
Hamburg, 254 cks, 1,010 bgs.

GRIMSBY.

Week ending May 5th.

Albumen—
Hamburg, 5 cs.
Chemicals (*otherwise undescribed*)
Antwerp, 20 cks.
Hamburg, 9 16 cs.
Dyestuffs (*otherwise undescribed*)
Dieppe, 6 cks.
Farina—
Hamburg, 30 bgs.
Pitch—
Dieppe, 10 cks.

EXPORTS OF CHEMICAL PRODUCTS

OF

THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending May 9th.

Acid—
urne, 20 jars £11
—
Town, 2 c. 12 cs. £37
ine, 2 16
—
pion Bay, 2 t. 6 c. £6
ampton, 2 1 9
2 6 9
dam, 1 2 38
oa Bay, 14 14
nous Cake—
ay, 28 cks. £35
nia (Liquid)—
urg, 5 dms. £9
io, 20 14
ne, 7 c. 6
nium Carbonate—
ne, 1 ck. £5
York, 100 pkgs. 410
tersburg, 26 t. 10 c. 925
nium Chloride—
urg, 1 t. £38
, 6 c. 11
un, 1 36
ne, 12 21
urne, 1 7 31
dor, 5 9
nium Nitrate—
ls, 13 cks. £74
nium Sulphate—
dam, 28 t. £392
del Mar, 151 13 c. 2,250
n, 30 420
uis, 51 11 800
ica, 10 4 138
does, 200 2,844
c—
de, 1 t. £18
eal, 1 2 c. 16
urne, 10 148
n Nitrate—
ls, 5 c. £5
York, 5 t. 5 84
ic Acid—
io, 3 c. £5
urne, 3 t. 118
—
ne, 11 c. £17
5 kgs. 8
ton, 5 7
urne, 10 15
Bay, 10 cs. 71
ic Acid—
, 9 c. £75
tius, 5 5
dam, 40 cks. 257
c Soda—
ampton, 10 t. £95
5 19 c. 126
, 18 9 234
Bay, 3 5
, 12 10
hai, 1 16
ta, 10 100
deo, 10 6
urne, 9 15 223
cals (*otherwise undescribed*)
rp, 10 t. 1 c. £123
y, 6 cks. 74
ntle, 26 pkgs. 91

Citric Acid—
Hamburg, 1 t. 13 c. £232
Rosario 2 14
Brisbane, 2 12
Piræus, 1 8
St. Petersburg, 16 120
Vigo, 5 37
Genoa, 10 72
Libau, 10 75
Rotterdam, 10 74
Melbourne, 1 5 180
Coal Products—
Aniline Salts
New York, 50 cks. £300
Anthracene
Rotterdam, 51 cks. £245
Benzol
Rotterdam, 46 dms. 97 cks 70 pkgs. £1302
Boulogne 30 pns. 74 cks. 398
Coal Tar Dyes
Boston, 1 cs £18
Melbourne, 1 7
Creosote
Huelva, 4,500 brls. £1,969
Naphtha
Marseilles, 22 dms. £61
Naphthaline
Hamburg, 100 bgs. 24 pkgs. £127
Marseilles, 50 cks. 63
Antwerp, 25 19
Nitro-Naphthaline
New York, 3 brls. £24
Paraffin Wax
Melbourne, 50 bgs. £115
Sydney, 204 cs. 526
Pitch
Salonica, 100 brls. £40
Dunkirk, 720 t. 945
Antwerp, 200 275
Sydney, 11 cs 21
New York, 1,000 bgs. 150
Boston, 745 cks. 442 pkgs. 489
Alexandria, 400 brls. 133
Algoa Bay, 10 cks. 8
Catania, 25 30
Leghorn, 620 t. 790
Wyborg Town, 30 41
Sables d'Olonne, 976 1,400
Tar
Boston, 300 cks. £145
Wyborg Town, 500 brls. 238
Natal, 600 drs. 25
Tar Oil
Boulogne, 90 cks. £102
Toluol
Hamburg, 16 dms. 223
Coal Products (*otherwise undes.*)—
Sydney, 200 dms. £40
Copperas—
Galatz, 8 t. 15 c. £14
Constantinople, 10 17
Copper Sulphate—
Brisbane, 1 t. £16
Antwerp, 20 295
Rio de Janeiro, 2 28
Santos, 4 18 c. 74
Lisbon, 54 13 750
Salonica, 1 16
Danzig, 6 12 97
Odessa, 5 79
St. Petersburg, 1 14
Alexandria, 3 3 54
Bordeaux, 94 5 1,508
Cream of Tartar—
Adelaide, 15 c. £56
Sydney, 2 t. 15 191
Lyttelton, 5 17
Melbourne, 1 64
Natal, 19 33

Disinfectants—
Barbadoes, 2 t. £84
Brisbane, 5 cs. 51
Sydney, 6 14
Melbourne, 4 10
Guano—
Landerneau, 390 t. 9 c. £3,900
Hydrofluoric Acid—
Montreal, 12 cks. £30
Iodine—
B. Ayres, 1 cs. £29
Manure—
Jamaica 14 t. 10 c. £181
Natal, 1 30
St. Kitts, 110 1,300
Yokohama, 1 16 31
Gothenburg, 59 9 188
Barbadoes, 50 520
Nevis, 35 385
St. Lucia, 45 495
Granada, 10 80
Treport, 99 12 600
Limon, 11 94
Nitric Acid—
Brisbane 6 cs. £8
Oxalic Acid—
Melbourne, 10 c. £36
Phosphate—
Demerara, 50 t. £140
Phosphoric Acid—
Boulogne, 5 c. £16
Potash—
Melbourne, 7 c. £21
Potash Crystals—
Brussels, 3 cs. £40
Potassium Bicarbonate—
New York, 4 t. £96
Potassium Bichromate—
Malaga, 1 t. 4 c. £50
Potassium Chlorate—
Genoa, 1 t. £63
Brussels, 4 c. 13
Odessa, 1 67
Potassium Cyanide—
Algoa Bay, 1 cs. £10
Shanghai, 2 cks. 10
Townsville, 3 27
Auckland, 6 t. 3 c. 912
Saltcake—
Antwerp, 165 t. £289
Saltpetre—
Cape Town, 13 c. £14
Adelaide, 1 t. 5 27
Hamburg, 4 9 107
Delagoa Bay, 10 12
Vigo, Corunna, 5 14 125
Oporto, 1 17 31
Melbourne, 3 10 79
Bahia, 6 7 158
Rio de Janeiro, 23 17 550
Sheep Dip—
Montreal, 15 dms. £26
Natal, 19 c. 1,316 275
Soda—
Wellington, 11 c. £3
Lyttelton, 11 5
Soda Crystals—
Cape Town, 1 t. £3
Natal, 3 5 c. 9
E. London, 1 6 3
Sodium—
Hamburg, 1 t. 1 c. £326
New York, 3 456

Sodium Acetate—
Melbourne, 1 t. 1 c. £20
Sodium Bicarbonate—
Brisbane, 10 c. £12
Seville, 1 t. 7
Auckland, 4 29
Lyttelton, 2 10 18
Paris, 7 146
Auckland, 1 8
Barbadoes, 1 8
Sodium Carbonate—
Natal 1 t. £8
Strontium Nitrate—
New York, 65 pkgs. £168
Brussels, 4 c. 6
Sulphur—
Lisbon, 350 brls. £250
Sydney, 1 t. 8
Wellington, 1 7
Sulphuric Acid—
Colombo, 3 t. 15 c. £19
Hamburg, 1 10
Superphosphate—
Landerneau, 29 t. 12 c. £90
Barbadoes, 200 800
Tartaric Acid—
Lyttelton, 3 c. £14
Algoa Bay, 4 kgs. 19
Melbourne, 10 54

LIVERPOOL.

Period ending May 9th.

Acetic Acid—
Gd. Canary, 1 c. £5
Vera Cruz, 5 cks. 15
Alkali—
Antwerp, 3 t. £14
Alum—
San Francisco, 10 t. 1 c. £47
Quebec, 3 1 15
Montreal, 10 3 48
Malaga, 3 3 18
Tripoli, 3 10 24
Barranquilla, 6 9
Aluminous Cake—
Piræus, 5 t. 4 c. £21
Ammonia (Liquid)—
Tampico, 1 cs. £5
Ammonium Carbonate—
Corunna, 10 c. £17
Leghorn, 15 21
Sydney, 10 19
Ammonium Chloride—
Kerasunde, 6 c. 1 q. £11
Genoa, 7 2 13
San Francisco, 2 t 2 64
Stockholm, 5 9
Constantinople, 2 74
Montreal, 5 3 11
New York, 9 3 225
Ammonium Sulphate—
Montreal, 10 t. 18 c. 2 q. £150
Antigua, 10 135
Alicante, 20 270
Philadelphia, 100 11 3 1,409
Hamburg, 5 5 73
Valencia, 32 16 436
Barcelona, 50 6 668
New York, 25 12 334
Barbadoes, 101 7 3 1,338
Samarang, 36 3 2 565
Sourabaya, 244 12 3 3,528

Antimony Sulphate—

Boston,	1 t.	3 c.	3 q.	£147

Bleaching Powder—

Baltimore,	38 cks.	
Boston,	198	
Catania,	10	
Corunna,	4	
Genoa,	97	
Havana,	10	4 cs.
Leghorn,	59	
Melbourne,	54	
Naples,	17	
New York,	30	
Rouen,	44	

Bone Waste—

Rouen,	6 t.	5 c.		£45

Boracic Acid—

Havana,		7 c.	2 q.	£14
Rotterdam,	1 t.		2	38
Montreal,	2	10 c.	1	100

Borax—

Corunna,		6 c	1 q.	£7
Antwerp,	5 t.	14	3	173
Ibrail,	1	10		35
E. London,	2	16		69
Hamburg,	11	8		344
Bordeaux,	1	14		52
Rotterdam,	10	5		277
Yokohama,	3	9	2	89

Calcium Chloride—

New York,	12 t.	16 c.	1 q.	£34

Caoutchouc—

Rangoon,	4 bls.

Carbolic Acid—

San Francisco,		4 c.		£10
Hamburg,		7	2 q.	10
Genoa,		7	3	26
Odessa,		2		7
Yokohama,	1 t.	12	2	77
Adelaide,		3		9
Philadelphia,	5			53
Rotterdam,	16	10		808
Montreal,			1½	10

Caustic Potash—

Singapore,		5 c.		£6
Manila,		8		11
New York,	20 t.	2		460
Genoa,		8		13

Caustic Soda—

Alicante,	55 dms.	15 cks.		
Barcelona,	200			
Calcutta,	180			
Cartagena, Sp.,	10			
Corunna,		28 brls.		
Genoa,	231			
Manila,	150			
Montreal,	31			
New York,		50		10 cs.
Palermo,	10			
Rouen,	125			
Samarang,	12			
Sydney,	99			
Trieste,	30			
Volo,	4			

Chemicals (*otherwise undescribed*)

Gefle,		5 c.		£9
Boston,	11 t.	11		70
Odessa,	5			180
Philadelphia,	13			325
Stettin,		19		37
Galatz.		5		9

China Clay—

Bombay,	59 t.	10 c.
Boston,	25	
Piræus,	15	4

Chloride of Lime—

Lisbon,	7 t.	6 c.		£57

Cobalt Oxide—

Antwerp,		1 c.		£30

Coal Products—

Alizarine

Lisbon,	2 cks.

Alizarine Oil

Lisbon,	2 cks.

Aniline Colours

Rabat,	1 cs.

Anthracene

Rotterdam,	48 cks.

Pitch

Galatz,	50 brls.

Tar

Kustendjie,	10 brls.
Leghorn,	1 ck.

Tar Salts

Antwerp,	638 bgs.

Coal Products (*otherwise undes.*)

Lyttelton	2 kgs.

Copperas—

Bombay,	26 t.	£50

Copper Sulphate—

Nantes,	49 t.	6 c.		£754
Bordeaux,	308	19	3 q.	5148
Genoa.	233	10		3740
Rouen,	46			713
Naples,	71	0	3	1064
Venice.	153	19	1	2317
Leghorn,	46	3	1	694
Oporto,	48	15	3	712
Palmero,	2	19		42
Lisbon,	58	6	2	853
Odessa,	2	2		31
Tunis.	0	17	2	13
Trieste,	4	19	3	78
Cette.	272	10	1	4336
Pernambuco,	0	6		5
Marseilles,	110	17	2	1760
Santos,	0	10		8
Boston,	0	14	2	11
Rio Janeiro,	1	3		48
Valencia,	50	9	1	120

Disinfectants—

Calcutta,	2 t	16 c.		£60
Bombay,	7	1		74

Iron Oxide—

Montreal,	4 t.	15 c.		£28

Litharge—

Oporto.	8 brls.

Magnesium Carbonate—

Paris,	4 t.	18 c	3 q.	£85

Magnesium Chloride—

Bombay,	2 t			£5

Magnesium Sulphate—

Rio de Janeiro,	100 kgs.

Manure—

Hamburg,	23 t.			£92
St. Nazaire.	550	6 c.		2,437
Santa Cruz,	35			340

Metallic Sodium—

Rotterdam,	3 t.	18 c	2 q.	£803

Oxalic Acid—

Boston,	4 t.	19 c.	2 q.	£100

Paint—

Cadiz,	20 dms.
Gibralter,	5 cks.
Gd. Canary,	2
Manila,	200 kgs.
Opobo,	2 cs
Punta Arenas,	12 cs., 57 kgs
St. Domingo.	2 cks.
St. John's, Nfd.	7

Painters' Colours—

Accra,	62 kgs.			
Alexandria,		1 ck.		
Bahia,	35		10 brls.	2 cs.
Baltimore,		70		
Barranquilla,	6	11	1	4 dms.
Bombay,	504			
Bonavista,	108			
Boston,			95	
B. Ayres,		8		50 cs.
Constantinople,	200			
Fiume,			7	3
Galatz,	50	5		
Genoa,		20		
Hamburg,	5	6	70 bgs.	
Havana,			2 brls	
Ibrail.				6 tcs.
Kingston, Jhm.,	3		18	
La Guayra,		3		
Larnaca, 1 bx.		1		
Loanda,			3	
Newport News,			100	
Oakville,	24	1	3	
Odessa,	100			
Para, 2 cs	30		22	10
Piræus,		4		
Rio Grande.		2		
Salonica,			3	
Valparaiso,	11 cs.			

Paraffin Wax—

Smyrna,	10 bgs.

Potashes—

Corunna,		5 c.	2 q.	£7
Amsterdam,	1 t.	13	2	41

Potassium Bichromate—

Vera Cruz,		2 c.		£5

Potassium Carbonate—

New York,	19 t.	2 c.		£364
Chicago,	2	4		45

Potassium Chlorate—

New York,	12 t.			£665
Hamburg,		10 c		32
Rotterdam,	1			56
Hiogo,	10			598
Vera Cruz,		2		8
Amsterdam,		3		11
Barranquilla,		2		6
St. Petersburg,	1	5		80
Ystad,	1			56

Potassium Prussiate—

Vera Cruz,		5 c.		£25

Salt—

Antwerp,	510 t.			
Boston,	100			
Calcutta,	1,993			
Cameroons,	50			
CharlotteTown,	500			
Degama,	50			
Dunedin,	5			
E. London	17	17 c.		
Ghent,	285			
Halifax,	435			
Iquique,		9		
Melbourne,	210			
Montreal.	402			
New York,	50			
Opobo,	20			
Para,	100			
Rotterdam,	199			
Sierra Leone,	300			
Sydney,	4	12		
Trinidad,	21			

Salt Cake—

Antwerp,	100 t.			£99
Beltimore,	40	4 c.		74
New York,	15	7		15

Saltpetre—

Para,		19 c.	3 q.	£23
Cabedello,	2 t	12		65
Manaos,		15		17
Montreal,	1	4	2	28
Bahia,	1	2		26
Pernambuco,	5	14	1	133
Barranquilla,		8		12

Sheep Dip—

Rosario.	21 t			£500
B. Ayres,	8	8 c.		179

Slag—

Nantes,	50 t.

Soap—

Accra,	100 bxs.			
Annatto Bay,	40			
Antofagasta,		25 cs.		
Athens,		22		
Bathurst,	70			
Brussels,		600		
Buenaventura,	50			
Calcutta,			4	300 bdls.
C. C. Castle,	40			
Gd. Bassam,	10			
Half Jack,	50			
Kingston, Jam.,	3,300			
Kurrachee,		10		
Leghorn,	4			
Malta,	30			
Monrovia,	72			
Morant Bay,	25			
Opobo,	250			
Patras,			15	
Pt. Natal,	50			
Rangoon,		1		
St. Nazaire,	600			
St. Thomas,	400			
Shanghai.	500			
Singapore,	3,000			
Surinam,	25			
Sydney,	28 cks.			
Valparaiso,		1		

Soda—

San Juan,	12 dms,	1 brl.

Soda Alkali—

Buffalo,	60 brls.
Galatz,	57
Genoa,	35
Newcastle,	40
Odessa.	100
Piracus,	52
Smyrna,	50
Sydney.	29
Toronto.	35
Wellington, N.Z.	10

Soda Ash—

Boston,	20 cks			
Calcutta	32	6 brls.		
Callao,		5	10 bgs.	
Hamburg,	16			
Hiogo,		50		
Montreal,			80	
New York.	153			
Philadelphia,		507 tcs.	3,712	
Samarang,	16			
Singapore,	8			
Smyrna,			50	
Sydney,	203			
Wellington, N.Z.	121 cks,			
Yokohama,	60 brls			

Soda Crystals—

Kingston Jam,	75 kgs.
Montreal,	90 cks.
New Orleans,	140
Toronto,	200

Sodium Biborate—

Hamburg,	2 cks.	6 brls.
Rotterdam,	17	

Sodium Bicarbonate—

Antwerp,		4 cks.
Auckland,	40 kgs.	
Bombay,		
Bourgas,	40	
Brentford,	50	
Canterbury,	20	
Dunedin,	290	
Genoa,	165	6
Ghent,	12	
Havana,	20	8
Leghorn,	95	22
Lyttelton,	100	
Marseilles,	30	
Montreal,	210	187
Naples,	100	
Newcastle,	50	
Quebec,	200	
Rotterdam,	75	
Rouen,	29	10
Seville,	50	
Singapore,	17	4
Sydney,	80	
Toronto,	50	
Trieste,	90	12
Waganui,	40	
Wellington, N.Z.	132	
Yokohama,	500	

Sodium Oxide—

Melbourne,	4 cs.

Sodium Silicate—

Corunna,	5 brls.

Sulphur—

Callao,	2 t.	0 c.	3 q.
Antwerp,	9	16	
Boston,	200	8	
Talcahuano,	6	5	
Pto Alegre,	1	2	
Manaos,		2	
Philadelphia,	1	12	
Rangoon,	6		
Kurrachee	3	1	2

Sulphuric Acid—

Gd. Canary,	2 t.	12 c.
Manaos,		9

Superphosphate—

Barcelona,	50 t.		
Nantes,	129	5 c.	3 q.
Valencia,	70	1	

Tin Chloride—

Demerara,	19 c.	3 q.

Turpentine—

Galatz,	28 brls.
Punta Arenas,	15 dms

Varnish—

Boston,	9 kgs.	
Genoa,	2 cs	
Hamburg,		1 dm.
Leghorn,	4	1 ck.
Montreal,	32	4 cks.
Naples,	2	
Porto Alegre,	2	
Puerto Cabello,	1	
St. John's, Nfld.,	1	
Talavera,	1	
Valparaiso,	7	

White Lead—

Sierra Leone,	2 cks.

Whiting—

Kingston, Jam.,	10 brls.

Zinc Chloride—

Bombay,	6 t.	10 c. 1 q.

MANCHESTE

Week ending March 10th

Ammonium Carbonate—

Rotterdam,	2 cks

Aniline Oil—

Rotterdam,	9 dms.

Aniline Salts—

Rotterdam,	1 ck.

Carbolic Acid—

Rotterdam,	81 cks

Colours—

Larnaca	2 cks.
Rotterdam,	1 brl. 1 cs.

Dyestuffs (*otherwise undescri*

Rouen,	5 cks.

Litharge—

Rouen,	4 cks

Pitch—

Antwerp,	350 t.

Tar Oil—

Antwerp,	5 brls.
Hamburg,	10 dms.
Rotterdam,	19

HULL.

Week ending May 5th.

—
en, 2 bls.
a, 20 cks.

inium Sulphate—
erp 457 bgs.
iania, 80
, 369
rdam, 200

hing Powder—
n, 289 cks.
, 31

—
erp, 20 cks.
g, 10

c Soda—
g, 192 dms.
ngen, 17
s, 47
n, 100

icals (*otherwise undescribed*)
rdam, 112 pkgs.
erp, 10 cks. 5 cs.
29
iania, 4 16 pks. 358 slbs
hagen, 10 1 cs.
g, 47 100
. 40
nburg, 10 5 5 pkgs.
urg, 14 260 cs.
tilles, 23
York, 36
s, 8
rdam, 3
tersburg, 16
n, 300 pkgs. 4
holm, 7 55

nseed Oil—
erp, 485 c.
en, 550
tiania, 9
hagen, 40
ldorf. 203
nburg 350
urg, 319
tilles, 907
ts, 135
rdam, 712
holm, 115

ote—
nburg, 150 cks.

uffs (*otherwise undescribed*)
rdam, 1 ck.
n, 6 cks.
g, 1 bl.
urg, 1
York, 4
tersburg, 2 cs.

ed Oil—
erp, 107 c.
12
n, 136
tiania, 553
tiansund, 69
ne, 121
tiansand, 103
dheim, 255
urg. 717
York, 71
rdam, 50
nger, 265

al White—
n, 50 bgs.
ngen, 200
—
urg, 3 cks.
—
holm, 2 cs.

ers' Colours—
rdam, 5 cks
erp, 52
n, 35 140 dms. 2 cs.
en, 1 80 30 pkgs.
tiania, 1 cs. 4 64 97 pks.
hagen, 1 27 6 10
tiansund, 1 72 pkgs
tiansand, 56 pks.
g, 38
irk, 19
a, 20 10
t, 13
nburg, 19 1 cs.
urg, 50 5
orn, 10
tilles, 6 1
York, 321
s, 10
n 42
rdam, 24 2
tersburg, 82
n, 2
holm, 10

Pitch—
Antwerp, 217 t.
Copenhagen, 23
Dunkirk, 85
Naples, 108 cks.

Salt—
Copenhagen, 5 t.

Slag—
Abo, 20 t.
Drontheim, 50
Stettin, 346

Soap—
Bergen, 44 cs.
Christiania, 100

Tar—
Amsterdam, 19 cks.
Abo, 100
Copenhagen, 5
Christiansand, 5
Danzig, 2
Dunkirk, 24
Genoa, 9
Hamburg, 30
Rotterdam, 19

Varnish—
Antwerp, 2 cks.
Bergen, 1
Christiania, 1 cs.
Copenhagen, 148 2 bls.
Danzig, 2
Genoa, 5 5
Gothenburg, 1
Hamburg, 1 1
Marseilles, 3
St. Petersburg, 1
Stockholm, 1

GLASGOW.

Week ending May 10th.

Ammonium Sulphate—
Demerara, 138 t. 13¼ c. £1,774
W. Indies, 152 10 1,963
Bordeaux, 21 2½ 280
New York, 2 10¼ 34
Charente, 5c 16 700

Bleaching Powder—
Melbourne, 32 t. 7¼ c £339

Borax—
Cape Colony, 3 t. 3½c. £07
Rouen, 1 9¾ 46

Castor Oil—
Chinde. £22. 10s.
Rotterdam, 1 ck. 6
Adelaide, 210 glns. 61

Caustic Soda—
New York, 10 t. 2½ c. £80

Coal Products—
Creosote Oil
Bordeaux, 173 t. 13 c. £410
Christiania, 25 cks 11
Naphtha
Rouen, 12 t 2¼ c. £172
Naphthal'ne
Dusseldorf, 115 t.
Pitch
New York, 59 t. 3½ c. £89
Gothenburg, 91 2½ 230
Bombay, 32 16½ 81
St. Nazaire, 37 15¾ 283
Quebec, 73 7¾ 104
Tar
New York, 49 t. £105
Quebec, 21 5 c. 44
St Petersburg, 1,550 brls.

Coal Products (*otherwise undes.*)—
Rotterdam, 7 dms. £60

Dried Blood—
Rouen, 10 t 1 c. £80

Dyestuffs—
Argols
Montreal, 2 t 8¾ c £35
Extracts
Montreal, £140
Melbourne, 1 t. 3 c. £57
Fustic
Quebec, 2 t. 4¾ c. £34
Fustic Extract
Montreal, 7 t. 9¾ c. £207
Logwood
New York, 1 t. 10 c. £26
Montreal, 3 1½ 34
Quebec, 2 13 23
Rotterdam, 10 69
Melbourne, 13 2¾ 163

Glucose—
Cape Colony, 28 t. 6 c. £380

Linseed Oil—
Cape Colony, 3 t. 13 c. £75
Chinde, 21
Demerara, 4 4

Litharge—
Montreal, 26 t. 15¾ c. £311
Antwerp, 2 14¾ 33

Magnesium Sulphate—
Montreal, 6 t. 17¾ c. £21
Rouen, 5 20

Manganese—
Antwerp, 12 t. 1½ c. £92
Rouen, 10 95

Manure—
Demerara, 33 t. 14½ c. £130

Paint—
New York, 14 t. 13¾ c. £277
Bombay, 10 202
Chinde, 542
W. Indies, 42
Demerara, 55
Melbourne, 101

Painters Colours—
Cape Colony, £23
Rangoon, 6 t. 9 c. 77
B. Ayres, 7 1 93

Paraffin Wax—
Antwerp, 7 t. 4 c. £231
Rouen, 15¾ 28

Potash—
B. Ayres, 1 t. ¾ c. £33

Potassium Bichromate—
Calcutta, 11¼ c. £37
Gothenburg, 10 t. 11¼ 370
Rotterdam, 1 ck. 20
Amsterdam, 1 8
Rouen, 4 17¼ 164

Potassium Nitrate—
Quebec, 1 t. £92

Potassium Prussiate—
New York, 9 t. ¾ c. £763

Rosin Oil—
Stockholm, 90 brls. 2 kgs £162. 10s.

Slag—
Amsterdam, 205 t. £71
Rotterdam, 481 168

Soap—
Chinde, 12 t. 5½ c. £183

Soda Ash—
New York, 15 t. 7 c. £57

Sodium Bichromate—
Montreal, 5 t. 10½ c. £182

Sodium Sulphate—
Quebec, 10 t. 10 c. £20

Sulphuric Acid—
Rangoon, 25 t. 12 c. £152

Tallow—
Christiania, 4 c. £5
Stockholm, 8 t. 16

Tartar—
Montreal, 19 c. £35

White Lead—
Cape Colony, 2 t 7¼ c. £47
Calcutta, 8 116
Adelaide, 3 9 48
Melbourne, 3 66

TYNE.

Week ending May 5th.

Alkali—
Antwerp, 2 t. 7 c.
Christiania, 25 5
St. Petersburg, 28 9

Alum—
Oporto, 21 t. 19 c.

Alum Cake—
Copenhagen, 10 t. 1 c.

Antimony—
Hamburg, 3 t.
St Petersburg, 10

Arsenic—
Christiania, 2 t. 4 c.
St. Petersburg, 4 16

Barytes Carbonate—
St. Petersburg, 50 t.
Hamburg, 100

Bleaching Powder—
Antwerp, 27 t 12 c.
Hamburg, 90
Christiania, 16 10
Oporto, 29 10
Bilbao, 11 6
Aarhuus, 3 7
Rotterdam, 29 1
St. Petersburg, 375 13
Copenhagen, 1 9
Libau, 10 1
Drontheim, 9 13
Leghorn 5 9

Borax—
Aarhuus, 4 c.

Caustic Soda—
Antwerp 3 t. 12 c.
Hamburg, 35 13
Christiania, 2 18
Odense, 1 3
Bilbao, 15 9
St. Petersburg, 145 1
Drontheim, 3 9
San Francisco, 30

Copperas—
Copenhagen, 1 t.
Bergen, 2 12 c.

Litharge—
Christiania, 6 c.
Copenhagen, 12
Oporto, 3 t. 2
Stockholm, 3 1

Magnesia—
Hamburg, 3 c.
Rotterdam, 7

Magnesium Carbonate—
St. Petersburg, 1 t.

Manure—
Arendel, 15 t. 11 c.

Paint—
Antwerp, 5 c.
Hamburg, 3 t.
Vadso, 9
Bergen, 1 10

Potassium Chlorate—
St. Petersburg, 2 t 10 c.

Rosin Oil—
Rotterdam, 2 t. 14 c.

Sheep Dip—
San Francisco, 9 t. 14 c.

Slag—
Rotterdam, 294 t.

Soda—
Frederica, 30 t. 2 c.
Antwerp, 5 2
Middelfart, 50
Christiania, 20 4
Rotterdam, 29 19
Christiansund, 6 16
Svendborg. 98 18
Leghorn, 50 1

Soda Ash—
Hamburg, 20 t. 8 c.

Sodium Silicate—
Bilbao, 17 t. 3 c.
Leghorn, 6

Sodium Sulphate—
St. Petersburg, 10 t. 1 c.
Copenhagen, 12

Tar—
Vadso, 1 t 4 c.

Varnish—
Christiansund, 2 t. 10 c.

White Lead—
Copenhagen, 4 t. 8 c.
Oporto, 2 16

GOOLE.

Week ending May 2nd.

Chemicals (*otherwise undescribed*)
Rotterdam, 49 cks.
Rouen, 4

Coal Products (*otherwise undes.*)
Boulogne, 5 cks.
Ghent 3 5 cs.
Hamburg, 5

Dyestuffs (*otherwise undescribed*)
Rotterdam, 46 cks.

Manure—
Boulogne, 196 bgs.
Ghent, 250
Hamburg, 400

Pitch—
Antwerp 40 t.

GRIMSBY.

Week ending May 5th.

Chemicals (*otherwise undescribed*)
Antwerp, 5 pkgs.
Dieppe, 8 cks. 135 btls.
Hamburg, 2 cs.

Coal Products (*otherwise undes.*)
Dieppe, 84 cks. 54 brls

Pitch—
Malmo 40 brls.

PRICES CURRENT.

WEDNESDAY, May 16th, 1894.

Prepared by Messrs. Higginbottom and Co., 116, Portland Street, Manchester.

The values stated are f.o.r. at maker's works, or at usual ports of shipment in U.K. The price in different localities may vary.

	£	s.	d.
Acids:—			
Acetic, 25 % and 40 % .. .. per cwt.	6	6 &	10 6
,, Glacial .. .. ,,			50/-
Arsenic S.G., 2000° .. .. ,,	0	14	6
Fluoric .. .. per lb.	0	0	3¼
Muriatic (Tower Salts), 30° Tw. .. .. .. per bottle	0	0	10
,, (Cylinder), 30° Tw. .. .. ,,	0	3	0
Nitric 80° Tw. .. .. per lb.	0	0	1¾
Nitrous .. .. ,,	0	0	1¾
Oxalic .. .. nett ,,	0	0	3¾
Phosphoric, 1750° .. .. ,,	0	1	0
Picric .. .. ,,	0	1	0
Sulphuric (fuming 50 %) .. .. per ton	15	10	0
,, (monohydrate) .. .. ,,	5	10	0
,, (Pyrites, 168°) .. .. ,,	3	0	0
,, ,, 150° .. .. ,,	1	5	0
,, (free from arsenic, 145°) .. .. ,,	1	6	0
Sulphurous (solution) S.G. 1025 .. .. ,,	3	0	0
Tannic (pure) .. .. per lb.	0	1	1
Tartaric .. .. ,,	0	0	11
Arsenic, white powdered .. .. nett per ton	14	0	0
Alum (loose lump) .. .. ,,	5	2	6
Alumina Sulphate (pure) .. .. ,,	5	0	0
Aluminoferric .. .. ,,	2	7	6
Aluminium .. .. per lb.	0	3	0
Ammonia, Anhydrous .. .. ,,	0	1	3
,, ·880=28° B .. .. per lb.	0	0	3
,, =24° B .. .. ,,	0	0	2¼
,, Carbonate .. .. nett ,,	0	0	3¾
,, Muriate .. .. per ton	24	10	0
,, ,, (sal-ammoniac) 1st & 2nd .. per cwt.	39/- &		37/-
,, Nitrate .. .. per ton	44	0	0
,, Phosphate .. .. per lb.	0	0	10½
,, Sulphate (grey) London .. .. .. per ton	13	2	6
,, ,, (grey) Hull .. .. ,,	13	2	6
Aniline Oil (pure) .. .. per lb.	0	0	5½
Aniline Salt ,, ... ,,	0	0	5¼
Antimony .. .. per ton	45	10	0
,, (tartar emetic) .. .. per lb.	0	0	10
,, (golden sulphide) .. .. ,,	0	0	10
Barium Chloride .. .. per ton	6	10	0
,, Carbonate (native) .. .. ,,	3	10	0
,, Sulphate (native levigated) .. .. .. ,,	45/- to		75/-
Bleaching Powder, 35 % .. .. nett ,,	7	10	0
,, Liquor, 7 % .. .. ,,	3	10	0
Bisulphide of Carbon .. .. ,,	11	15	0
Chromium Acetate (crystal) .. .. per lb.	0	0	6
Calcium Chloride .. .. per ton	2	5	0
China Clay (at Runcorn) in bulk .. .. .. ,,	17/6 to		30/-
Coal Tar Products and Dyes:—			
Alizarine (artificial) 20 % .. .. .. net per lb.	0	0	8
Magenta .. .. ,,	0	3	9
Anthracene, 30 % A, f.o.b. London .. per unit per cwt.	0	1	1
Benzol, 90 % nominal .. .. .. per gallon	0	1	1
,, 50/90 ,, ... ,,	0	1	4
Carbolic Acid (crystallised 40°) .. .. .. per lb.	0	0	6
,, (crude 60°) .. .. per gallon	0	1	7
Creosote (ordinary) .. .. ,,	0	0	1½
,, (filtered for Lucigen light) .. .. ,,	0	0	2½
Crude Naphtha 30 % @ 120° C. .. .. .. ,,	0	0	5¾
Grease Oils, 22° Tw. .. .. per ton	2	10	0
Pitch, f.o.b. Liverpool or Garston .. .. .. ,,	1	7	3
Solvent Naphtha, 90 % at 160° .. .. .. per gallon	0	1	2
Lucigen" and "Wells Oils .. .. ,,	0	0	2½
Copper .. .. per ton	40	0	0
,, Sulphate .. .. ,,	15	10	0
,, Oxide (copper scales) .. .. ,,	40	0	0
Glycerine (crude) .. .. ,,	15	10	0
,, (distilled S.G. 1250°) .. .. ,,	44	0	0
Iodine .. .. nett, per oz.	0	0	9
Iron Sulphate (copperas) .. .. per ton	1	4	0
,, Sulphide (antimony slag) .. .. ,,	2	0	0
Lead (sheet) for cash .. .. ,,	10	5	0
,, Litharge Flake (ex ship) .. .. ,,	13	0	0
,, Acetate (white ,,) .. .. ,,	25	15	0
,, brown ,,) .. .. .. ,,	16	10	0
: (white lead) pure .. .. .. ,,	20	0	0
.. .. ,,	20	0	0

	£	s.	d.
Lime, Acetate (brown) .. .. per ton	5	17	6
,, ,, (grey) .. .. ,,	10	5	0
Magnesium (ribbon and wire) .. .. per oz.	0	2	3
,, Chloride (ex ship) .. .. per ton	2	10	0
,, Carbonate .. .. per cwt.	1	17	6
,, Hydrate .. .. per ton.	17	0	0
,, Sulphate (Epsom Salts) .. .. .. per ton	3	0	0
Manganese, Sulphate .. .. ,,	17	15	0
,, Borate .. .. per cwt.	2	12	6
,, Ore, 70 % .. .. per ton	4	5	0
Methylated Spirit, 61° O.P. .. .. per gallon	0	2	2
Naphtha (Wood), Solvent .. .. ,,	0	3	7
,, ,, Miscible, 60° O.P .. .. .. ,,	0	4	4½
Oils:—			
Cotton-seed .. .. per ton	21	15	0
Linseed .. .. ,,	21	15	0
Petroleum, Russian .. .. per gallon	0	0	3¾
,, American .. .. ,,	0	0	5¼
Phosphorus (yellow) .. .. per lb.	0	2	2
,, (red) .. .. ,,	0	2	9
Potassium (metal) .. .. per oz.	0	3	7
,, Bichromate .. ..nett per lb.	0	0	4½
,, Carbonate, 90% (ex ship) .. .. .. per ton	16	15	0
,, Chlorate .. .. per lb.	0	0	7¼
,, Cyanide, 98% .. .. ,,	0	2	0
,, Hydrate (Caustic Potash) 80/85 % .. per ton	21	15	0
,, ,, (Caustic Potash) 75/80 % .. ,,	20	0	0
,, ,, (Caustic Potash) 70/75 % .. ,,	19	10	0
,, Nitrate (refined) .. .. per cwt.	1	2	6
,, Permanganate .. .. per cwt.	3	2	6
,, Prussiate Yellow .. .. per lb.	0	0	10¼
,, Sulphate, 90 % (ex ship) .. .. .. per ton	9	15	0
,, Muriate, 80 % (do.) .. .. .. ,,	8	7	6
Silver (metal) .. .. per oz.	0	2	4½
,, Nitrate .. .. ,,	0	2	10
Sodium (metal) .. .. per lb.	0	3	4
,, Carb. (refined Soda-ash) 48 % ..nett per ton	4	17	6
,, ,, (Caustic Soda-ash) 48 % .. ,, ,,	4	2	6
,, ,, (Carb. Soda-ash) 48% .. .. ,, ,,	4	0	0
,, ,, (Alkali) 58 %) .. .. .. ,, ,,	3	15	0
,, ,, (Soda Crystals) .. .. .. ,, ,,	2	15	0
,, Acetate (ex-ship) .. .. ,,	14	15	0
,, Arseniate, 45 % .. .. ,,	11	0	0
,, Chlorate .. .. per lb.	0	0	8¾
,, Borate (Borax) .. .. net, per ton.	23	0	0
,, Bichromate .. .. ,, per lb.	0	0	3¾
,, Hydrate (77 % Caustic Soda) (f.o.b.) net pr. ton	10	15	0
,, ,, (74 % Caustic Soda) ,, ,, ,,	10	0	0
,, ,, (70 % Caustic Soda) ,, ,, ,,	9	0	0
,, ,, (60 % Caustic Soda) .. ,, ,,	8	0	0
,, ,, (60 % Caustic Soda, cream) (f.o.b.) ,,	7	17	6
,, Bicarbonate .. .. ,,	6	12	6
,, Hyposulphite .. .. ,,	5	12	6
,, Manganate, 30% .. .. ,,	16	0	0
,, Nitrate (95 %) ex-ship Liverpool .. .. per cwt.	0	9	9
,, Nitrite, 98 % .. .. per ton	29	10	0
,, Phosphate .. .. ,,	15	0	0
,, Silicate (glass) .. .. per ton	5	7	6
,, ,, (liquid, 100° Tw.) .. .. .. ,,	4	5	0
,, Stannate, 40 % .. .. per cwt.	3	0	0
,, Sulphate (Salt-cake) .. .. per ton.	0	17	6
,, ,, (Glauber's Salts) .. .. ,,	1	5	0
,, Sulphide .. .. ,,	8	10	0
,, Sulphite .. .. ,,	5	15	0
Strontium Hydrate, 100% .. .. ,,	8	10	0
Sulphocyanide Ammonium, 95 % .. .. per lb.	0	0	7¼
,, Barium, 95 % .. .. ,,	0	0	5
,, Potassium .. .. ,,	0	0	7½
Sulphur (Flowers) .. .. per ton.	7	12	6
,, (Roll Brimstone) .. .. ,,	5	15	0
,, Brimstone: Best Quality .. .. .. ,,	3	17	6
Superphosphate of Lime (26%) .. .. ,,	2	7	6
Tallow .. .. ,,	28	0	0
Tin Crystals .. .. per lb.	0	0	6¼
English Ingots .. .. ,,	76	0	0
Zinc (Spelter) .. .. per ton	1	12	6
,, Chloride (solution, 96° Tw.) .. .. .. ,,	5	10	0

THE

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AND

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ements intended for insertion in the current week's issue h the office by **Wednesday morning** at the latest.

CURRENT TOPICS.

COAL TROUBLES IN AMERICA.

THE numerous inconveniences which arose out of the recent coal strike in this country, influenced railways as well as manufacturing concerns, and it is a well-known fact that in many cases local traffic was curtailed on account of the scarcity of coal. Similar difficulties have been experienced in America lately, but over there, in one instance, a very novel way of getting out of an awkward corner has been resorted to. Being short of coal, and suffering in consequence, the Baltimore and Ohio Railroad Company conceived the idea of seizing all the coal passing over their system, and applying it to the firing of their locomotives.

The action was smart certainly, but we should think likely to lead to some rather awkward complications. Presumably goods in transit over a railway company's lines are for the time being the property of the company, but, all the same, having taken goods under their care, they have to give an explanation of what they have done with them, if they are not forthcoming at their destination within a reasonable time. If this sort of thing can be done without great inconvenience to railway companies, it seems strange that the same thing was not done over here, when the companies, both large and small, were so sadly put about for want of coal. Setting aside the cuteness of the idea, however, the whole thing seems rather like robbing Peter to pay Paul.

The example thus set does not appear to have been followed very widely by other companies, they evidently preferring to get supplies in different ways. It is interesting to note that among the various places which have been drawn upon for supplies, Cardiff figures with an order for fifteen thousand tons.

VENTILATION IN THEORY AND PRACTICE.

Most people who have spent much time in public buildings know that even the best schemes of ventilation—on paper—work out but indifferently in practice. With the view, if possible, of removing this stigma from scientific sanitation, Mr. Allen discusses in an American contemporary the theories of air currents as generally held by architects and others. In so doing he very lucidly points out the weak links in the chains of argument which lead to the conclusion that vitiated air is to be found chiefly either at the top or the bottom of rooms. He draws special attention to the influence of temperature upon the movement of exhaled gases and other sources of contamination, such as sulphuretted hydrogen, coal gas, and carbon monoxide. It would seem that the sum of the different influences caused by the varying temperatures and specific gravities of these gases, often amounts to little or no motion at all, and in other cases it is as often upwards as downwards.

The action of gravity, undoubtedly, plays an important *rôle* in separating noxious gases, but diffusion also performs a function of equal importance. Unfortunately, we have bu

scanty *data* about the rates of diffusion of the different gases which are present in occupied halls and similar places; and further definite investigation on the part of scientific institutions which are fitted for such work is called for by Mr. Allen. At the same time he takes exception to some of the crude methods of experimenting on the movement of air currents, adopted by some sanitary engineers. It is a certain fact that even in Chemical lecture theatres, apparently good systems of ventilation have been known to fail signally. Where this has been the case, investigation upon the lines suggested by Mr. Allen might with advantage be taken up in this country as well as in America, as he suggests.

THE MANCHESTER SHIP CANAL.

On Monday last, the Manchester Ship Canal was formally opened by Her Majesty the Queen with all fitting *éclat*. The weather under which the event was celebrated was none of the brightest. It was, however, rather a singular coincidence, and one which augurs well if there is any virtue in omens, that the sun, which had been hidden most of the afternoon, should burst through and smile upon the proceedings almost at the very moment when the panoramic view of the docks and the wide waterway was first presented to Her Majesty's sight as she arrived at Trafford Wharf.

To the chemical and correlated trades, it is to be hoped that the Canal will form a convenient and useful means of transport. Already pyrites, salt, wood pulp, dyewoods of various kinds, resin, pitch, and lubricating oil have been either brought to or sent from Manchester by means of the new waterway. The experiment of carrying the last-mentioned item, and likewise wood pulp, has been attended with considerable success, and is likely to be repeated. Strenuous efforts, we understand, are being made to cause the carriage of chemicals and raw materials by the Canal to be as cheap as pre-existing routes, efforts which, we trust, will be rewarded with the success they merit.

RECENT CUSTOMS DECISIONS.

PHTHALIC ACID.

IN the matter of the protests of the Roessler and Hasslacher Chemical Company against the decision of the Collector of Customs at New York as to the rate and amount of duties chargeable on certain phthalic acid imported July 11, 1893, and August 2 and December 5, 1893, the following is the opinion by General Appraiser Lunt :—

We find : 1. That the Roessler and Hasslacher Chemical Company imported into the port of New York in the year 1893, as shown above, certain merchandise, which was assessed for duty at 20 per cent. *ad valorem* under paragraph 19, N.T., as a coal-tar preparation, and is claimed to be free under paragraph 473, N.T.

2. That said merchandise is known as phthalic acid, and is a chemical compound, a coal-tar preparation, not a colour or dye. It is formed by strongly oxidizing naphthalene, and is an acid. It is used in the arts as a material in the production of coal-tar dyes by combining the same with other acids or salts.

3. A very large proportion of the coal-tar dyes and preparations are acids. Being a coal-tar preparation, it is specially provided for in paragraph 19 of the tariff act, and the protests are overruled.

PARA-NITRANILINE.

In the matter of the protest of Messrs. Schulze-Berge and Koechl against the decision of the Collector of Customs at New York as to the rate and amount of duties chargeable on certain chemical compounds imported June 23, 1893, the following is the opinion by General Appraiser Lunt :—

We find—1. That Messrs. Schulze-Berge and Koechl imported into the port of New York, June 23, 1893, a quantity of para-nitraniline, upon which duty was assessed at 35 per cent. *ad valorem* under paragraph 18, N.T., and which is claimed to be dutiable at 20 per cent. *ad valorem* under paragraph 19, N.T.

2. That para-nitraniline is a chemical compound and a coal-tar preparation, not a colour or dye.

The protest is sustained.

SULPHANILIC ACID.

In the matter of the protest of Messrs. Wm. J. Matheson an Limited, against the decision of the Collector of Customs at Ne as to the rate and amount of duties chargeable on certain sulp acid imported July 11, 1893, the following is the opinion by G Appraiser Lunt :—

1. The merchandise covered by this protest is sulphanilic ac ported by W. J. Matheson and Co., Limited, at New York, J 1893. Duty was assessed thereon at 20 per cent. *ad valorem* paragraph 19, N.T., and free entry is claimed under paragraph 4

2. We find that the merchandise is a coal-tar preparation, colour or dye, and that it is an acid. It is made by heating for hours sulphate of aniline with slight excess of sulphuric acid. It as a material in the production of several coal-tar colours or dy cluding the colour or dye known as orange 11. It is specificall vided for with other coal-tar preparations in paragraph 19.

The protest is overruled.

RAPESEED OIL.

In the matter of the protests of the United Oil Co. again decision of the Collector of Customs at New York as to the ra amount of duties chargeable on certain rapeseed oil imported Au 1893, and September 12, 1893 the following is the opinion by G Appraiser Lunt :—We find that the protestants imported into th of New York, in the year 1893, certain rapeseed oil, as shown and duty was assessed thereon at 10 cents per gallon under para 43, N.T. It is claimed to be fit only for soap stock, and the exempt from duty under paragraph 599, N.T.

The merchandise being rapeseed oil is denominatively provid in paragraph 43, and being specially provided for, is exclude paragraph 599.

The protests are overruled,

THE GAS SUPPLY OF LONDON AND LEED

LONDON.

THE quality of the gas supplied to the City of Londo the week ending May 12th, 1894, was good. Acc to the report of Mr. W. J. Dibdin, chemist and su tendent gas examiner to the London County Council, the tests m the various testing stations showed no deficiencies in illumi power. The following figures have been prepared fro report, and show the average composition of the gas calculat the mean test :—

Company.	No. of districts tested.	Illuminating power (in stand. sperm candles). Mean average.	Sulphur. Grains in 100 cb. ft. Mean average.	Ammonia Grains in 100 cb. ft. Mean average.	ph Hy
Gas Light and Coke Co.	14	16·30	9·63	0·40	
South Metropolitan Gas Co.	6	16·48	10·18	0·26	
Commercial Gas Co. ..	2	16·25	7·90	0·70	

The standard gas supplied by these companies should ha illuminating power of 16 sperm candles, and contain not more th grains of sulphur and 4 grains of ammonia per 100 cb. ft. of gas average of three days with a pressure of one inch between suns midnight, and six-tenths of an inch between midnight and sunset

LEEDS.

According to the report of Mr. T. Fairley, F.I.C., gas exa for Leeds, the total proportion of sulphur contained in the Lee during the month ended May 10th, 1894, has averaged 14·39 per 100 cubic feet. The following are the results of tests made Works in grains per 100 cubic feet :—

Place.	Date when Tests were made. April. 1894.	May. 1894.	Total Sulphur.	Ammonia.	Carbonic A Weight.	Vo
Meadow Lane....	20, 28.	2, 8.	13·21	0·59	32·60	
New Wortley	18, 26.	3, 9.	14·55	0·93	40·75	
York Street	21, 24.	5, 10.	17·16	2·11	48·90	
Average at Works	..	..	14·39	0·97	40·75	
Average at East Parade	..	..	14·01	0·87	40·75	

During the month the average illuminating power of the Lee tested at 17, East Parade, the tests being calculated to a uniform sumption of 5 feet per hour, and corrected for variations in tempe and pressure to a temperature of 60° Fahr. and a barometric pr of 30 inches, has been in standard candles (burning 120 gr sperm per hour) :—Standard argand, 24 holes, 18·1; standard bat 18·7 ; Sugg's illuminating power meter, 18·2.

Agricultural Notes.

PARATIVE VALUE OF SULPHATE OF AMMONIA AND SODIUM NITRATE.

experiments regarding the comparative value of these two ous manures has been conducted recently at the Swedish ural Station, by M. S. Rhadin. A number of similar nts have been made in Germany and England, but varying ve been obtained. As far as the variety of the plants experi- pon, the work of Paul Wagner was most comprehensive. present experiments the trials were confined to oats and The soil used was compact and argillaceous, rich in potash phoric acid. Having been pasture land for some years, the ot received any farm manure for eight years. The sulphate te were applied in quantities of 27 and 45 kils. of nitrogen per The field was divided into eight portions. Three received ler quantity of nitrogen and three the larger, while two no manure at all.

he averaged results of the experiments of two years it appears barley did not yield so well with the sulphate as with the while with the oats the results were just reversed. With the results were equally unsatisfactory with both the large or ntities of sulphate.

THE ADULTERATION OF THOMAS SLAG.

he growth of the popularity of a manure, adulteration as a s too. As it was with guano, so it is with phosphate slags. able quantities of slags now sold as Thomas meal are composed ground phosphates. An instance of flagrant adulteration has been shown up by Mons. Loges, of the Pommritz Agricultural n Belgium, who submitted to analysis a sample of manure sent earing the name of phosphate slag. It had all the appear- genuine phosphate meal, but was in reality composed of hosphorites and a considerable percentage of ground coal. ple was neutral to litmus paper. After the carbonaceous d been removed by calcination, it possessed a brown yellow nd then contained 15·6 per cent. of phosphoric acid, and 24·1 of lime, of which 2·48 per cent. was united with carbon dioxide ·43 per cent. of calcium carbonate. The rest was made up of and calcium fluoride. Heated in a suitable tube, all the istic products of the dry distillation of ordinary coal were ob- Money spent on such manures is only money thrown away, as nd phosphorites which replace the phosphoric acid, which present, have practically no action on the soil. It is only too rom the foregoing that intending purchasers should in all cases rchasing phosphate slags in the future have an analysis made, ttual satisfaction of both buyer and seller.

ORTHO-CHROMATIC DRY PLATES.

ad occasion to refer to these plates a short time back in these lumns, and the remarks of Mr. Pringle concerning their utility bility are by no means uninteresting. He has made a number ments with these plates, and finds that for all purposes they are al to the general run of plates, while in some respects they are e to any others. He says further: My results prove that, hout the interposition of any "screen," the plates show a uper-normal sensitiveness to yellow rays and a reduced pro- sensitiveness to blue rays, which is so desirable for the correct of the subjects usually photographed.

use of screens of suitable density and colour, the most accurate of coloured objects can be obtained with these plates. I s and yellows rendered excellently, and greens are better than I have ever seen them in other plates.

can be no dispute that the Lumière plates do all that is claimed and do all that any plates now put forward as sensitive to d green can do.

ates are not highly sensitive in general, and when screens are exposure ought to be considerably increased. For the lighter found that ten times, and for the darker screen twenty times sure requisite without a screen should be given.

ot recommend that ammonia should be used for the develop- these ortho-chromatic plates; pyro-soda or amidol is e.

ates are wholly free from fog, and yield density easily. The specially good and thin.

r particulars can be obtained from, and the detailed en at, the office of Messrs. Fuerst Brothers, 17, Philpot-lane,

THE PELTON WHEEL.

THIS class of motor is well known in the States, where they are largely used in the mining districts of California They are especially suitable for localities where the falls are high and the quantity of water limited, and under these conditions the efficiency is equal to that of the best turbines made.

Fig. 1 shows one of these wheels in cast-iron case, fitted with Hett's Patent Regulator, a description of which is given below.

FIG. 1.

Fig. 2 shows a wheel suitable for mounting on wood or iron frame. This type is a favourite one for export, the framing being generally made on the spot.

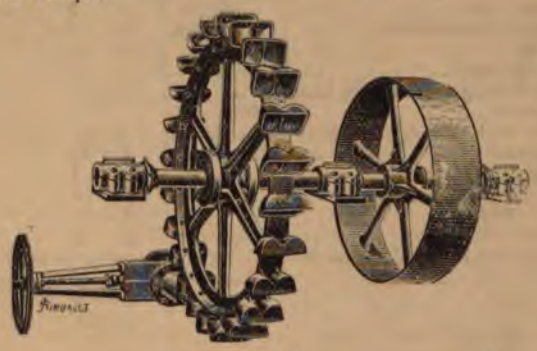

FIG. 2.

Until recently the only efficient means of regulation was by changing the nozzle for one of a different size, which involved stopping the wheel to make the change, and a limited range of variation, as generally three nozzles only, were provided.

To obviate this serious defect Mr. Chas. Louis Hett, of the Turbine Foundry, Brigg, brought out and patented a regulating nozzle by means of which the water may be used at full bore of jet or reduced to a fine point if necessary without stopping the wheel.

Fig. 1 above represents a wheel in case fitted with this arrangements which consists principally of a nozzle fitted with an internal spear, somewhat similar to the older form of injectors.

The spindle carrying the spear has a screw cut upon it working in a brass nut, and is withdrawn to open the jet, and advanced to close it by means of the handwheel shown on the illustration. Another arrangement has since been patented by Mr. Hett, in which the spear it operated by a hydraulic cylinder, controlled by a centrifugal governor, by means of which the supply of water is automatically regulated to suit the load.

This arrangement is especially suitable when the motor is used for electric lighting or other purposes where a regular speed under varying load is required. When a large power is required to be developed by a single wheel it is made with two or three nozzles.

The Pelton Wheel has been adapted to almost every class of work, but is especially suitable for electric lighting and power purposes, and for running mining machinery.

In many cases the dynamo or blowing engine is coupled direct to the shaft of the Pelton Wheel, thus economising space and saving the wear and tear of belts.

THE MANUFACTURE OF LITHARGE.—The following is a patent process for the manufacture of litharge and red lead from glalena. The ore is roasted in a reverbatory furnace and converted into the oxide and sulphate. The mixture is then taken as it is, or along with lead fume or sulphate from any other source, and a quantity of an alkaline earth, or other suitable metal such as magnesium or zinc added. This mixture is again roasted in a reverberatory furnace, giving lead oxide and zinc sulphate, etc. The two are then separated in the usual way.

Official Memoranda.

(From the Board of Trade Journal.)

THE NEW TARIFF OF BRITISH INDIA.

THE following is a special abstract of the new import duties to be levied upon goods entering British India :—

Name of Article.	Tariff Valuation.		Duty.
	Rs.	a.	
Alkali .. ..per cwt.	2	0	5 per cent.
Alum .. .. ,,	5	0	,,
Arsenic .. .. ,,	25	0	,,
Bicarbonate of Soda .. .. .. ,,	7	0	,,
Iron Sulphate (copperas) .. .. ,,	3	0	,,
Sulphuric Acid .. .. per lb.	0	2	,,
Explosives	*ad val.*		*ad val.*
Salammoniac .. ..per cwt.	30	0	5 per cent.
Sulphur (flour) .. .. ,,	5	8	,,
,, (roll) .. .. ,,	5	0	,,
,, (rough) .. .. ,,	4	0	,,
Other Chemical Products	*ad val.*		*ad val.*
Alizarine Dyes (all colours)	*ad val.*		*ad val.*
Aniline do. ,, ... per lb.	1	8	5 per cent.
Gallnuts, Myrabolams .. ..per cwt.	4	8	,,
Madder .. .. ,,	12	0	,,
Orchella weed .. .. ,,	9	8	,,
Other Dyeing and Tanning Materials	*ad val.*		*ad val.*
Petroleum .. .. .. Imp. gall.	—		1 anna.
Do. with flashing point at or above 200°F.	*ad val.*		5 per cent.
Turpentine .. .. .. Imp. gall	1	14	,,
Candles (paraffin) .. .. .. per lb.	0	5	,,
,, (spermaceti) .. .. .. ,,	0	6	,,
,, (wax) .. .. ,,	1	0	,,
Rosin .. ..per cwt.	4	4	,,
Colours and Painters' Materials .. 5 p c.	according to tariff valt'n.		
Pitch (coal) .. ..per cwt.	2	8	5 per cent.
Tar (coal) .. .. ,,	2	8	,,
Soap .. .. ,,	*ad val.*		,,

THE CULTIVATION OF SUGAR BEET IN AUSTRALIA.

The Belgian Consul-General at Melbourne states that with a view to increasing their agricultural resources, several Australian colonists have been paying attention to the cultivation of the sugar beet. In the province of Victoria, especially, some attempts now being made point to complete success.

The climate is favourable, and, if the lands, their manuring, and the plants are satisfactory, it cannot be doubted that the final result will give satisfaction to the promoters.

The Consul-General draws the attention of European manufacturers to the demand which will arise for the necessary machinery to carry on the industry. In regard to the question of persons seeking for orders, he points out that first the permanent agent, and then the special agent may be considered as successful elements; failing them, it will be indispensable to utilise all the means of publicity possible.

AN ALUMINIUM SOLDER.

One of the most perplexing questions encountered in the development of the uses of aluminium has been that of soldering the metal. In many instances the effort has been made to get around the difficulty by riveting, a method frequently awkward and often leading to structural weakness. The *New York Iron Age* says of the tests made by the Alsite Aluminium Company, 106 and 108, Liberty-street, New York : Among the tests made were butt welds of sheets and plates, which under tension showed the soldered joint to be so well made that rupture took place in every instance outside the joint. Strips connected by butt soldering were twisted in the vice without opening the seam, and soldered tubing has been successfully drawn recently. The surfaces to be soldered are cleaned by dipping in a hot solution of soda or potash, then dipped into nitric acid, rinsed in hot water and dried. Sometimes the surfaces are cleaned by filing the edges to be joined. The parts to be soldered are heated as hot as can safely be done without melting, and a small portion of the solder is spread over the edges by means of a soldering brush, which should be kept heated during the process. The edges are then joined, and more solder is applied and spread evenly over with the brush During the entire operation the metal is kept as hot as possible, and it is completed when the solder becomes distinctly white or the aluminium assumes a reddish hue. Authorities on the working of aluminum have acknowledged that soldering by the Alsite process accomplishes results not attained.

THE SWEDISH BEET-SUGAR INDUSTRY.

The sugar of Sweden is made from beets, and the following show the number of beet-sugar factories in the kingdom and th put for the particular years stated :—In 1882, one factory in o produced 1,472 tons of raw sugar ; in 1889, four factories p 10,822 tons ; in 1890, six factories produced 16,307 tons ; eight factories produced 27,241 tons ; and in 1892, 30,781 to produced.

The amount of sugar consumed in Sweden is given in the f statement, which shows the number of tons used for each ye 1883 to 1891. It must be borne in mind that the figures in th ment represent refined sugar, whereas the foregoing are for ra For purposes of comparison 100 tons of raw sugar may be t equal to 90 tons of refined. In 1883, 38,914 tons of refined su consumed in Sweden ; in 1884, 40,753 tons ; 1885. 41,353 ton 41,392 tons ; 1887, 42,656 tons ; 1888, 44,589 tons ; 1889 tons ; 1890, 51,343 tons ; and in 1891, 54,336 tons.

Reckoning that the consumption will continue to increase same ratio as heretofore, it is found that in the year 1896 Swe make use of 64,000 tons of refined sugar.

A careful estimate of the output of the Swedish factories, ac the regularly increasing product of the 10 factories now in oper probable product of four new factories just built or being built that in 1896 there will be produced in Sweden 76,000 tons sugar, equal to 68,400 tons of refined. Hence, in 1896, the y next, Sweden will probably produce not only sufficient sugar fo inhabitants, but have a surplus for export.

It is true that the Swedish sugar-beets are all raised in the s portion of the country, and nearly all in a comparatively small in the extreme south-west. It is also true that the Gulf Strea veying the waters of the tropics to the north-west of Europe, the Scandinavian peninsula a climate milder than that enjoyed other northern land. Still, after all allowances have been Sweden remains an extreme northern country, with long winter summers, and, in general, a hard soil.

THE PRODUCTION OF WAX IN CHILI.

The annual production of wax in Chili is about 8,000 to Spanish quintals of 46 kilogrammes, or a total of from 368 460,000 kilogrammes ; one-tenth part of this production is co in the country by the convents, churches, colleges, etc ; the re is exported.

The area of production is comprised between the provi Coquimbo on the north, and Concepcion on the south.

The price of the wax varies according to the fluctuat exchange and the prices on the European markets, the chief o are Hamburg, Liverpool, and Havre. In 1892 the wax sold 60 to 70 piastres per quintal of 46 kilogrammes (net); at pres price varies between 70 and 80 francs per quintal accor quality.

The wax is of three kinds : white, yellow, and shaded (gr which are further sub-divided into first, second, and third q These three classes depend upon the refining to which the subjected by the producers. Generally, the refining is bad, the producers wish to lose nothing in refining, and often the insufficient apparatus

Care should be taken in buying these products as they ar falsified. The wax is mixed with shells, grease, and residues o facture, which alter the quality of the article and affect its weig

CANAIGRE AS A SUBSTITUTE FOR BARKS IN TAN

In a recent report to his Government the United States C Chemnitz writes as follows with regard to attempts whic recently been made to prove the efficiency of canaigre as a su for barks in tanning :—

The first efforts to find out canaigre's value for tanning in G failed because the tests were made from the green plant Still, were the results, that a Scotch firm offered to take 10,000 ton if it could be sent for 40 dols. per ton. Nothing came of th Herr Eitner, director of the experimental station for the leather i at Vienna, took up the matter, made original experiments, ar the facts to the world in a small pamphlet. He says can especially suited to upper, saddlers', and fancy leathers. further, that 30 marks, delivered in Vienna, per 100 kilogramm lbs.), would be a moderate price He has only words of praise new article. So, too, the tanning school at Freiburg ; a Director Haenlen stated he would like very much to get a large dried, so as to make better experiments than he was able to ma what was sent him from Liverpool. The value of canaigre as

settled ; the only question now is to get enough at satis-ces. The plant is native to many parts of America. It has known in Mexico both for its tanning and medicinal proper-ows well in Mexico, New Mexico, Texas, both Californias, in the Indian Territory.

places it appears in February, just after the rainy season, dly, and is ready to harvest at the end of May. Sometimes grow in the fall, continues growing during the winter—of countries where the winter is not severe—and gives in the ry strong plant.

nt has seed and root, but is reproduced from the latter, experiments as yet have succeeded in doing much with the e roots yield the most tannic acid. Their growth depends soil and rain. The old roots, hard as wood and almost especially rich in tannic acid. The stalks, stems, and leaves in material too—enough to pay for harvesting. The cell ots and leaves gives a pronounced reaction when touched sulphate or bichromate of potash. Touch a thin cut in ith either of these reactionary agents and a precipitation takes on as the cell juice is met. Age adds to the roots an excel-ing essence, as well as tanning material.

owing table tells its own story. The canaigre tested was o two years old :—

Roots from—	Tannin Stuff.
nce :	Per cent.
am soil	35·6
oil	28·4
am soil	30 8
	30·5
oil at end of canal	31·9
do.	33 5
miles west of Florence, loam soil	29·0
er, hard sandy soil	31·7
	32·7
Salt River :	
ndy soil	22·5
y sandy, sugar-beet field loose loam	33·4
oil	34 3
npa, fine sandy soil	30 0
do.	23·0
Average	30 5

s of New Mexican canaigre gave about the same results. year roots yield from 20 to 25 per cent., the older roots per cent. Fresh, the canaigre contains (average) 66 per ater ; two months old, 58 per cent. ; one year old, about 18 dry, 8 per cent. Thus 3 lbs. of fresh yield 1 lb. of dry—30 f tannin. One centner (112 lbs.) of dry roots yields 45 lbs. with 66 per cent of tannin ; hence 6 centners of fresh yield of dry, 66 per cent. of tannin. Further, out of 6 centners of gets 2 centners of dry or 1 centner of extract. By taking t from roots and leaves where it grows much money might be losses due to transport spared. The refuse could be used to cattle fodder, for which purpose it equals wheat straw. In the tannin it is best to cut up the roots and to use a diffusion milar to that used in extracting sugar from cane or beets. It ry to use copper kettles, as the canaigre influences and is by iron. It is good also when extracting by means of lye steaming to use vacuum pans, otherwise the tannic acid runs going over into gallic acid. By steaming under small pres-is no loss of tannin, and one gets an excellent extract of a our, easily soluble in water.

mand for tannin all over the world is very large. In every new tannin-containing plants are being sought. A fear has for some time that with the constantly increasing demand the urces of supply must soon run out. Most American leathers d with oak and hemlock barks and extracts. The supply st for ever. It is running down fast. Europe buys large of the oak and hemlock, the best known barks. Even with its almost boundless forests of oak and hemlock, annin in large quantities. In 1891 there were imported ns of gambier (300,000 centners), worth 1,500,000 dols. A canaigre extract equals a centner of gambier ; besides it has and finishing qualities, as above indicated, fitting it for eeds. 1,800,000 centners of canaigre could keep out 00 centners of gambier. Many practical tanners say must go, that canaigre is destined soon to replace it. ntities are already finding their way into the world's markets eing warmly welcomed.

Two experiments made by Dr. von Schroeder gave the following :—

Componepts	No. 1.	No. 2.
	Per cent.	Per cent.
Water	11·00	14·69
Tannin	34·91	27·72
Dissolvable non-tannin stuff	18 14	9·4
Dissolvable mineral matter	1·97	2·13
Undissolvable parts	33·98	46·06
Total	100·00	100·00

Dr. von Schroeder goes on to say that canaigre is rich in tannin ; that it dissolves and gives out its acid, even in cold water ; and that which it does not give out can easily be got out by hot water or steam extraction. By grinding the dry roots or plant one gets a very good material to mix with tanning barks—oak, hemlock, &c. Canaigre gives leather a soft, bright colour, often a clear, bright orange. The leather comes out full, smooth, and with a good grain. Dr. von Schroeder agrees with the Vienna chemist that canaigre is especially suited to upper, saddler, and fancy leathers. He says it is one of the very best materials for uppers, and that it is also well suited to other kinds. He is very enthusiastic about it. Its large amount of tannin, the ease with which it dissolves in water, the presence of sufficient acid-producing stuff, and the beautiful colour, touch, and grain that it gives commend it. If it is possible to produce canaigre in America in large quantities at fair prices, it will certainly sell, not only here, but all over the world. He says investigations made by himself resulted in showing that the centner, inclusive of freight, costs the tanner 15 to 16 marks. This, at an average of 28 per cent. of tannin, gives it to the tanneries at 55 pfennigs. This is much too high, and precludes importation.

THE USE OF EXPLOSIVES IN MINES.

ACCORDING to the report of Mr. A. H. Stokes, the Inspector of Mines for the Midland district, the use and description of explosives used in a mine is a matter which requires serious consideration. There appears to be a growing demand for a safe, effective, and economical explosive, but at present, says Mr. Stokes, we are far from having reached the maximum of either safety, efficiency, or economy, or restricted their use to the minimum required for the development and working of the mine. Great strides have been made within the last few years in the attempts to produce a safe explosive, but at the present moment I am not aware that we have an absolutely flameless explosive, or one by which infallible security may be attained during blasting in a mine. The chief element of danger in connection with blasting operations is the production of a flame of high temperature, which may ignite inflammable gases in the vicinity of a shot, or by the concussion of the shot in dusty places raise sufficient dust to convert an atmosphere only slightly charged with gas into an inflammable mixture. Recent experience leads me to think that gunpowder should be prohibited from use in all fiery and dusty mines, and although we have high explosives which, with care and under stringent regulations might be used, yet all such shots should be fired by an official of the mine who has been taught the nature and power of such explosives, for miners are liable to use a high explosive for a given amount of work in the same proportion as they would use gunpowder, and with the frequent result that explosives are wasted and the element of danger from a blown-out shot, or exposure of flame of intense heat which would result from an over-charged shot is intensified. Miners accustomed to gunpowder all their lives scarcely understand the power of a high explosive, and do not consider the importance of using the minimum quantity of such explosive substance to perform the work required, neither do many men appreciate the importance that stemming or ramming should consist of a damp non-inflammable material, and that the first part of the tamping should be introduced in small proportions, to prevent the compression of air at the bottom of the shot-hole. In mines worked with safety lamps, all shots should, in my opinion, be fired by electricity and low-tension fuses, for the employment of ordinary gunpowder fuse is liable to emit sparks at the moment of ignition, which will ignite gas, and the incongruity of prohibiting a man from using a naked flame to light the end of a fuse, which, when lighted by a red-hot wire, is equal to a naked flame, cannot be justified, especially when we have at command electric exploding appliances which are both safe and efficient, and present many advantages as regards safety over any kind of fuse which emits sparks that will ignite gas, or which cannot be ignited except by the application of flame to its extremity. The simplicity and certainty of firing by the low-tension system of electrical blasting commends itself to all who have adopted its use. The electric fuse can be safely tested by a galvanometer before being taken into the mine and little fear need be entertained that the operatives will be troubled with misshots, and the weight of the firing apparatus need not prevent its general use.

Reports of Companies.

THE PUMPHERSTON OIL COMPANY LIMITED, (WEST LOTHIAN.)

THE directors of this Company in making their report for the financial year ended April 30th last, state that after providing for the maintenance of the works and mines during the year at a cost of £13,575. 10s 4d, there is a balance at the credit of profit and loss account of £20,966. 11s. 5d., which, the credit balance brought forward from last year, £468 1s. 7d., makes £21,434 13s., from which falls to be deducted interest on debentures and loans, £3,878. 10s. 4d., leaving £17,556 2s. 8d., which the directors recommend should be disposed of as follows—viz, in writing off for depreciation, £8,0 0., in payment of a dividend on the Preference shares for the two years ending 30th ult, at a rate of 6 per cent. per annum, free of income tax, payable half on 29th June and half on 28th December, 1894, £8,443. 4s., leaving a balance of £1,112 18s. 8d. to be carried forward to current year. The capital expenditure for the year, which amounts to £5,367. 15s. 7d., has been rendered necessary by the further increase in the company's business, and is chiefly made up in providing (1) additional cooling plant; (2) additional plant for refining solid paraffin; (3) additional storage tanks; and (4) plant for oil depots. The directors expect that the capital outlay for the current year will again be small. Notwithstanding that increased prices have had to be paid for fuel during the year, substantial reductions have in every department again been effected in the cost of production. The company has gained considerably under this head from the improvements in the plant which have from year to year been introduced. The mines have yielded an ample supply of shale during the year, and have been maintained in good condition at a cost of £3,093. 13s 3d., which has been charged to revenue. The works have been maintained in the highest condition of efficiency at a cost to revenue of £10,481 17s. 1d. The policy of progress and improvement hitherto pursued by the company has been continued during the year with most satisfactory results. There has been a substantial improvement in the price of the company's chief product—sulphate of ammonia; but owing to running contracts the full advantage of the increased price was not obtained during the year. The price of solid paraffin remains unaltered. All liquid products, with the exception of gas oils, are lower in value It is, however, satisfactory to state that the use of oil for the enrichment of coal gas, which is rapidly developing, has greatly improved the prospects for gas oils. The directors regret they are unable to recommend a dividend on the ordinary shares of the company, but they propose paying the dividend on the preference shares for the year now closed, and also the dividend on the preference shares for the preceding year, in respect of which no dividend was paid The value of products in stock has been written down out of the profits of the year to a low level, and so far as can be seen the company will not sustain further loss under this head. On the whole, the directors consider the position of the company more satisfactory than it has been for some years. A portion of the current year's make of sulphate of ammonia has been sold at enhanced prices, and the directors feel satisfied the results of the current year's working should be more favourable. The company continues to be insured at moderate rates against risk from fire and boiler explosions, and also under the Employers' Liability Act. The retiring directors this year are Messrs. Tennent and Craig, who are eligible for re-election, and are willing to act if re-elected. The appointment of an auditor will fall to be made at the meeting. The directors recommend the re-appointment of Mr. Thomas Landells Selkirk, C A., Glasgow. An extraordinary general meeting was held at the close of the annual meeting, at which the directors submitted a proposal to increase the borrowing powers conferred upon them. The directors presently have power to borrow £20,000. over and above sums borrowed on the company's debentures, but in order to meet from time to time the exigencies of the increased business now carried on by the company, it is necessary to have the powers increased.

THE LINLITHGOW OIL COMPANY, LIMITED.

The report of the directors of this Company for the year ended March 31st last, states that after providing for maintenance and repairs there is a balance at the credit of profit and loss account of £6,001. 15s. 3d. From this sum falls to be deducted £3,818. 16s 5d for interest on debentures, debenture stock, and temporary loans. The directors advise that the balance of £2,182. 18s. 10d be carried forward to the current year's accounts. Effect has been given to the special resolution passed and confirmed at extraordinary general meetings held on 15th June and 4th July, 1893, whereby the share capital was reduced from £150,000. to £100,000. The mineral oil trade during 1893-4 has been even worse than during the preceding year; and prices have touched a point below which it is unlikely they will go. The result has been twofold; it has increased the consumption of lamp oils, which at present are the cheapest, and, in respects, the best illuminants known; and it has caused manufa either to carry on their business at a loss or with a margin of pr of proportion to the capital and skill employed. Fortunately Scotch trade the value of sulphate of ammonia—which is not ol in the production of petroleum — has been except good; and while the increased price obtained has not sufficient to counterbalance the decline in other products, it ha so to a material extent. The directors are pleased to be able that the cost of production and the yield of refined products dur past year have been satisfactory. Costs are higher than they have been, owing to the coal disputes which took place in En and afterwards in Scotland. Not only was the fuel Bill increa amount, but the retorts had to be damped down for a fortni want of regular supplies of coal. The expenditure upon account has been £2,574. 5s. This sum has been spent ma providing additional cooling power, which during last summ below what was required for the efficient and economical extrac solid paraffin. The candle department has been extende further tank accommodation for finished oils provided. It anticipated that any exceptional addition to plant will be re during the current year. The directors are glad to be able to that there is now every prospect of the agreements with the proprietors, which terminate at Martinmas next, being renew two years, and thereafter of permanent agreements, based on a scale, being brought into operation. The directors have ag record their appreciation of the liberal spirit shown by Lord Ro and Captain Johnston Stewart.

MATTER—SOLID AND LIQUID.

IN the course of the third and last of his lectures on this sub the Royal Institution, Professor Dewar dealt with what might be called the elastic problem—the relations of force or st the corresponding alterations produced by them in matter. outset he remarked that the determination of the constants o was more difficult than it was in the case of liquids on acc the smaller changes in volume that took place. In the case solid there were three constants to be found out—its extensibi torsional variation at different temperatures and pressures, general compressibility. The extensibility of a metal was ex by Hooke's law that elongation was proportional to the force ing it, while the alteration which occurred simultaneously in section was given by "Young's Modulus." Some idea mi gained of the resistance of any material to compression or te strain by investigating the force necessary to break it at variou peratures. Non-crystalline metals at low temperatures would much greater strain than at ordinary ones It was experim shown that a rod of tin which at ordinary temperatures had a br strain of 200 lb. required at 180 degrees below zero a strain of 380 lb. to break it. In the same way iron and lead at low te tures would bear twice as much strain without breaking as they at ordinary temperatures. The determination of the breaking of mercury was also shown. The mercury was first frozen in The resulting solid rod was then immersed in liquid oxygen and in the usual way, when it was found to break with a force of 3 the square inch. Some other experiments were also made to sh changes in the physical constants of metals at low temperatures equal rods of the same material were supported at their ends, a of them was cooled to—180 degrees, the other being at the temp of the room. A weight which at once bent the warmer one effect on the other. Two tuning forks which sounded in unis came decidedly disonant when one of them was cooled to—180 d a fact which shows that the period of vibration had been alte the change in rigidity. Professor Dewar concluded from his ments generally that the resistance of metals to strain increased temperature was lowered, and he supposed that at—273 degre zero of absolute temperature, all metals would be infinitely resis

THE SANITARY DEFECTS OF WOOD PAVING.—Two repo wood pavement have been issued by the authorities in Washing in New South Wales. The Board of Health of the American declares that though four-fifths of the newly-paved streets of the ci been covered with wood blocks, every one of these thoroughfare a lapse of barely three years, is in an unsatisfactory state, a nearly all of them gave signs of "rapid decomposition." The from Australia as to the absorption of ordure by wood pavement as discouraging as that from Washington. One thing, indeed, to be quite clear on the subject, and that is that wooden road whatever kind cannot be kept in a harmless condition without washing.

E STATE OF THE CHEMICAL TRADES.

HICAL, cement, and lead works in the Tyne and Wear districts e been fairly well employed during the past month, and the same said for the chemical trade in Liverpool and district. The es, however, have been very quiet. Paper and pulp works in d Barrow are reported as being busy. In the Yorkshire dis- nical works have been busy, and glass works have been about as compared with the previous month. The seed crushing and about Hull have mostly been working short time, and ls have stopped running. Work in the oil mills has also been The paint and colour works have been busy on the whole. d bleachers round Derbyshire, especially in the Belper dis- very quiet. In the Bristol district the paint, oil, colour, and rades are active. A moderate trade is reported from Cardiff ict, the chemical works thereabouts having been going moder- l.

NOTES ON EMERY.

course of a Paper read before the Franklin Institute, Mr. T. D. t, speaking on the use of emery as an abrasive, says, while ation of corundum depends partly on its supposed possession percentage of alumina, it is also based on that standard of hardness, whose origin is credited to Dr. Smith His method opted by later investigators) was to place emery or corundum e of glass, rub the emery over the glass with a piece of agate, emery is reduced to an impalpable powder, and then to weigh and ascertain the amount removed. Sapphire was treated the y, and its result stood as 100 in the scale. This method at first sight, to be exact, but it assumes a uniform hardness ire, though such uniformity is doubtful in the extreme, and assumes uniformity in the resisting power of glass, which y is equally doubtful. Its greatest defect, however, is nits two of the most important factors in the economical or ial problem, *i.e.*, the time and the power. Even if it does e the effective hardness of grinding materials it does not deter- ir grinding capacity in any such way as to establish relative ial values. The commercial question is not settled by the t that a given material will grind off a given amount of glass It must also be stated how long it takes to grind and how wer is consumed.

f it could be proved that the relative hardness of corundum ercentage of alumina entitled it to a higher commercial value ry, the manner in which corundum occurs at the mines makes ul if a uniform product can be secured. In one form, probably t, it occurs in thin seams of bright blue sapphire, coated with l of totally different nature. In another it occurs as distinct of considerable size, encased in a softer matrix. In another ccurs in decomposed or broken-down seams. Dr Chatard that "the crushing of emery is generally much easier than that dum, though in this respect great differences often exist the corundum of different localities and even in that from parts of the same mine. This is probably due to the tendency dum to alter or weather. The researches of Prof. F. A. nd others have shown that it yields readily to the action of solvents, becoming softer and more friable, the alumina with other substances to form various other minerals." * * * when the change is very slight and invisible to the eye we may aterial apparently solid and unaltered, which, though crushing d giving a product of good appearance, not only yields too proportion of the comparatively useless 'flour,' but even a grain in cutting effect."

ch crushing indictment as this can be brought against emery. such tendency to weather and decompose. Sand veins are n, and the emery rock occurs in mass. We have noted only two ns to its character for absolute stability. Professor Shepard rted a gain in weight of manufactured emery amounting to two , which gain was due to oxidation. An old sample case of gton" emery, which had remained many years unmoved in a mpressed me with the truth of Professor Shepard's report, but nly met with this one instance. I cannot believe that as a thing it undergoes any change whatever in composition. If other artificial agents were employed to give that brown colour which is mistakably accepted by some criterion of good emery, that might account for n after manufacture. The other exception occurs in e of some American emery. This emery is sometimes n, amorphous masses of considerable size, often of many tons surrounded by earth and detached from other rock. Where asses thin out at the edge they occasionally contain iron pyrites, rock thus tainted crumbles to pieces after short exposure to the weather. The indications of this taint are so clear that there is little excuse for one who mines such ore. As a rule this contamination affects only a small part of the edge of the mass, so small a part that it is not easy to see how even careless mining could have furnished enough to greatly lower the general average quality of the rock. I have seen one large deposit, however, where the presence of pyrites is so general as to suggest doubt about the average quality. A very old ore pile of many tons gives evidence of some change since the ore was mined, though there is no serious crumbling. It is quite possible that the mining of such ore gave American emery that bad character which effectually stopped its sale about twenty years ago.

Certain general impressions as to the relative value of different varieties of emery have long influenced the public. A great superiority has been claimed for Naxos emery and a high price is asked for it, but even those skilled in the industry do not seem convinced of its superiority, or, if they admit it, do not consider it a reason for much higher price. Turkish emery is accepted by the general user without any stipulation, except that it be Turkish, though emery mills attach special values to different mines. It appears, however, that no distinctive character really attaches either to Greek or Turkish emery, the quality ranging from first-class to worthless. Good ore is a matter of selection.

DETERMINATION OF PHOSPHORUS IN COAL AND COKE.

AT the last annual meeting of the American Institute of Mining Engineers, Mr. J. Lynchenheim, of Swedeland, Pa., read a paper on the above topic, in which he said:

In connection with the manufacture of special Bessemer pig containing ·030 per cent. or less of phosphorus it was found that the phosphorus in anthracite varied so greatly that it was necessary to sample and analyse each carload. This, of course, in addition to our routine work, involved a considerable amount of extra trouble, and some experiments were made with the view of cutting down the time and labour of the determination to a minimum. As there seemed to be no question that all the phosphorus is to be found in the ash, the old method of fusing 5 grammes of coal with 40 grammes of carbonate of soda and 40 grammes of potassium nitrate was not tried. It involved too much attention in preventing the fused mass from overrunning the crucible, Several methods were tried without satisfactory results. In conclusion, the author says: "I had been under the impression that fusion of the ash or residue was necessary in all cases; but wishing to ascertain exactly what proportion was dissolved out by hydrochloric acid, and what remained in the residue, I tried the experiment of treating the ash exactly like an ore, transferring it to a 5-inch casserole; adding 40 c.c. of strong HCl; evaporating to 10 c.c.; then adding 40 c.c. of nitric acid (sp. gr. 1.42) and evaporating until all brown fumes had passed off, and the solution contained about 20 or 25 c.c. The nitric acid solution has a strong tendency to "bump," and care must be taken to keep the contents of the casserole in motion. The results showed that the phosphorus was almost completely soluble in hydrochloric acid, and only a trace remained in the residue. This, then, was a solution of the problem by which results could easily be obtained in from an hour to an hour and a half, with little labour and attention on the part of the operator. It is just as satisfactory, and gives just as concordant results as the longer methods.

"In all this work we have been using a very simple arrangement, by which the combustion of the carbon was considerably hastened. In fact, it was found much more satisfactory than the large fusion crucibles we had previously employed. Its comparative cheapness enabled us to run six analyses at a time, and also did away with the expensive necessity of laying in a supply of large crucibles. It consists of boat two inches square and half inch deep made from 0·002 platinum foil. Care should be taken in making the boats that the corner flaps fit lightly, so that none of the ash will be lost by getting into the interstices. A tripod, Erdman chimney, and two pieces of thin platinum wire complete the arrangement. The wires should be so bent as to be about three-quarters of an inch below the top of the chimney. The heat applied for the first five minutes should be a low red, in order that none of the coal shall be lost in the escape of the volatile matter. After that the gas should be turned on full, and a bright red heat maintained. It is not necessary that the sample should be ground very finely. By constant stirring we have effected the combustion of the carbon in half an hour, and with an occasional stirring it should never take more than an hour."

REDUCTION IN THE PRICE OF GAS.—The directors of the South Metropolitan Gas Company, having now made their coal contracts, have decided to reduce the price of gas from 2s. 5d. to 2s. 4d. per 1,000 cubic feet. This reduction of 1d., representing over £26,000. a year to the consumers, will take effect from Lady Day last.

ANSWERS TO CORRESPONDENTS.

J. B.—No; only to subscribers.
Mooshic.—Your query is having our best attention.
F. Bros.—Yes, but the matter is not of very direct interest. Other matters would be more acceptable.
E. and M.—Both are to hand. Not just at present; later on perhaps.
E. G (New York).—We are obliged for the particulars.
L. C C.—We thought the lapse was of longer duration. We are much obliged for notification.
A. M. (Lille).—We do not think it is published as yet, but will write you particulars in the course of a few days.

IMPORTS AND EXPORTS FOR APRIL.

THE Board of Trade returns for April show rather better results, though the improvement it must be admitted is but slight.

IMPORTS OF FOREIGN AND COLONIAL PRODUCE

Articles.	Quantities. 1893	1894.
Margarine ..... Cwt.	91,334	103,687
Copper Ore and Regulus ..... Tons.	12,403	12,227
Hides, dry and wet ..... Cwt.	67,786	88,537
Nitrate of Soda ..... Tons.	5,171	25,530
Tallow and Stearine ..... Cwt.	148,369	224,979
Tin ..... Cwt.	70,424	80,087

EXPORTS OF BRITISH AND IRISH MANUFACTURES.

Articles.	Quantities. 1893.	1894.
Alkali ..... Cwt.	647,179	465,990
Cement ..... Tons.	39,461	38,831
Coal and Coke ..... Tons.	2,332,695	3,008,208
Copper, all kinds ..... Cwt.	111,463	80,653
Iron and Steel ..... Tons.	252,159	240,351
Chemical Manures ..... ,,	24,791	26,604
Oils, seed ..... ,,	5,366	6,743
Salt ..... ,,	57,942	91,563

Trade Notes.

Fire at a Print Works.—A serious fire, doing damage to the extent of £15,000., has occurred at the Print Works of Messrs. Inglis and Wakefield, Busby, near Glasgow.

Economies in the Dyeing Trade.—Scotch Turkey-red dyers are making experiments which, if successful, will considerably cheapen the manufacturing process and reduce manual labour.

The Central Cyclone Company, Limited.—It will be of interest to sugar refiners to learn that this company is now prepared to erect plant for eliminating any quantity of charcoal dust from the granular portions.

Dangerous Employments.—The Home Secretary has included brass mixing and casting among the processes dangerous and injurious to health under the provisions of the Factory and Workshop Act, 1891, section 8.

And Yet Another!—Last week considerable damage was done to a house at Castleford owing to the occupier, Mr. A. Greenwood, secretary to the Yorkshire Glassblowers' Association attempting to trace an escape of gas by means of a lighted match. Mr. Greenwood was severely burned, and much damage was occasioned to the premises, the windows and ceiling of the room being destroyed and the roof lifted. Hunting a fox with a brass band is merely futile, hunting a gas leak with a naked light is something more than that. We are constantly reading, as we do above, how this "something more" is always assuming different forms, but the moral is apparently seldom if ever learned or applied.

FOREIGN REMITTANCES.

Owing to the inconvenience created by the various ways in which foreign subscriptions are remitted, we respectfully beg to inform subscribers that a *Crossed* Money Order is the most satisfactory method of remitting, both for them and ourselves. In the case of a Money Order, a letter advising us of same should always be sent, otherwise, owing to post-office formalities, much delay in tracing and acknowledging foreign remittances is inevitably entailed in this country.

Market Reports.

TAR AND AMMONIA PRODUCTS.

Benzols of both grades continue to rule at the same prices as have been quoted for some weeks past, and there appears little likelihood of a change yet awhile. Crude carbolic acid (60%) is fairly steady, and 40% crystals are inclined to be dearer. Crude naphtha is about the same, with little prospect of an advance. Solvent naphtha is steady at 1s. 2d. Pitch is dearer at 28s. 6d. to 29s., f.o.b. East Coast. Anthracene is unaltered.

Sulphate of ammonia has, during the week, made a decided advance, which is being well maintained. Sulphate is scarce and likely to be, and in spite of buying on the part of speculators, there is good reason to think that the needs of consumers are but inadequately satisfied. Beckton quotes £13. 17s. 6d., London outside makes are fetching from £13. 17s. 6d. to £14, Liverpool £13. 17s. 6d., Hull £13. 17s. 6d., and Leith £14. to £14. 2s. 6d. Forward as far as October-March delivery has been done at £13. 15s. to £13. 17s. 6d., and the demand is still good.

REPORT ON MANURE MATERIAL.

Now that the manure season is nearing its close, there seems to be more disposition to consider the position of material for delivery ahead, but buyers are in no great hurry to operate. The tendency of prices of mineral phosphates is in favour of buyers. There are sellers of 75/80% Florida rock at 8d, cost freight and insurance to Continental ports, and that price is asked for United Kingdom, but it is probably ¼d. per unit above the actual value. For South Carolina River rock the quotation is now 7d per unit, with a disposition to meet buyers of important quantities, 1894 shipment. Peace River rock is worth about the same money; perhaps a shade more. Continental phosphates, too, are something easier. A large business has been done in East Indian bone meal, mostly to Glasgow, at £4. 12s. 6d. per ton for summer shipment, and £4. 15s for August-October shipment, and these prices are the closing values. Naturally at these prices more attention has been given to East Indian bone meal than to River Plate bones, and the latter hang fire at prices asked for them. Sellers still quote £4. 17s. 6d. for River Plate cargoes, but £4. 12s. 6d. to £4. 15s. is now nearest value. The rapid advance in the price of sulphate of ammonia, prompt and forward, will no doubt make other sources of ammonia in greater request, so that a recovery in the market for bone meal may be looked for. Nitrate of soda is weak in all positions. On spot the value of fine is 9s. 6d. per cwt., and of ordinary 9s. 4½d. per cwt. June-July delivery may be had at 8s. 9d. to 8s. 7½d. per cwt.

MISCELLANEOUS CHEMICAL MARKET.

In the alkali trade the position of all the main products is upon the whole quiet. Bleaching powder, however, being rather an exception: for this the demand is fairly active for export account, and price in hardwoods f.o.b. is £8. to £8. 5s. per ton; softwoods, on rails at makers' works, £7. 10s. per ton Current quotations for caustic soda, subject to usual variations according to market, are as follows:—f.o.b Tyne, 77%, £10. 15s.; f.o b. Liverpool, 74%, £10.; 70%, £9.; 60%, £8.; cream, 60%, £7. 17s. 6d., 10-ton lots and upwards. In soda ash no improvement is yet visible, prices remain at 1d. per degree for ordinary makes of Leblanc ash f.o.b., and for ammonia alkali £3. 2s. 6d., bags, makers' works, is still the nominal quotation. Soda crystals are flat, and unchanged in price. Chlorate of potash 7d. to 7¼d. per lb., and chlorate of soda 8½d. to 8¾d. Recovered sulphur £3. 17s. 6d. per ton. Vitriol and muriatic acids are in fairly good request. In nitrate of soda the decline of price continues. Sulphate of copper still brisk at £15. 10s per ton f.o.b. Stocks of white arsenic remain low, and with limited supplies the market is firm at £14. to £14. 5s., f.o.r. Garston, etc. The demand is good for potash, caustic and carbonate, and full prices are maintained. Yellow prussiate of potash quiet, and price steady at 10d. to 10¼d. Brown acetate of lime can be bought at £5. 15s, for spot delivery, but a firmer tone prevails for forward deliveries. Grey acetate of lime in better request. All other acetates and acetic acid continue to be offered at extremely low rates. Borax flat at 23s. Carbolic acid crystals rather firmer in tone, stocks being light.

VERPOOL OIL AND COLOUR MARKET.

WEDNESDAY.

—Palm oil is quietly steady at £21. 10s for Lagas, and Benin , both transit. Olive is steady, without alteration in prices. is decidedly firm, and Liverpool makes in export casks are ted 22s. 3d to 22s. 9d per cwt. Cottonseed is easier, but ady at the decline, Liverpool refined being quoted 20s. 9d to per cwt. Castor oil is fairly steady, but the tendency is Good seconds Calcutta continues at 2⅝d., and first pres- ench 2⅝d. to 2⅝d , per lb. Tallow is firm, with a better for North American at 24s. 6d. to 25s 6d. per cwt. Resin: is steady at 3s 9d. per cwt., with a fairly good demand. f turpentine continue to rule firm, and 24s. per cwt. is now the n. Petroleum is rather slow to move at 4¼d to 5½d. for n, according to quality; and 3⅝d. ro 3¾d. per gallon for refined.

OURS are steady without alteration in prices. Oxfordshire, common, £10., medium, £12., best, £15.; ire, common, 40s.; medium, 50s., best, 60s.; Welsh, best, conds, 50s., and common, 18s.; Irish, Devonshire, 40s. to rench, J.C., 55s. to 60s.; M.C., 65s. to 67s. 6d. Umber: quiet; Devonshire, 50s. to 55s. White lead, and oxide unchanged. Venetian red, £6. 10s. to £10. Cobalt: l oxide, 9s. 9d.; black, 9s.; blue, 6s. Zaffres: No. 1, No. 2, 2s. 6d. Oxide of iron: Common, £6.; medium, inest, £20. Zinc oxide, £23. to £25.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, TUESDAY.

last report, sulphate of ammonia has been steadily rising in d a very substantial advance is now to be marked. Towards the the week prompt price became £13. 12s 6d. to £13. 15s., ward at £14, but before the close of the week certain of the efused straight offers of £13. 15s., and yesterday buyers paid s. 6d. for immediate delivery. Forward has been done at ne delivery, £14. 2s. 6d. July-October, and £13. 12s. 6d. to s. 6d. October to March. The article is very strong, and in the market inclines to some further advance.

the foregoing exception, the market is exceedingly sluggish, there are no notable drops in manufacturers' quotations. lone keeps fairly well asked for, at recent values maintained. micals are all very slow of call, owing to the protracted depres- hat section.

al oils and paraffins are unchanged—that is, they remain very ith open quotations stationary. Four of the companies have nancial reports for the past year, but in no case is there any shareholders, exclusive of preferred stocks.

prices current are:—Soda crystals £2. to £2. 2s. 6d. nett, Tyne; 48/52° £3. 12s. 6d. to £3. 17s. 6d. nett, Tyne; white alkali 4 10s to £5. 5s nett, Tyne; alum in lump £5. 10s. nett, Glasgow; soda, white, 74° £10., 70/72° £9., 60/62° £8. 2s. 6d., m 60/62° £7. 17s. 6d., all nett, Liverpool; bleaching powder ., nett, Tyne; saltcake, 17s 6d.; borax, English refined, s., and boracic acid, £32 10s. nett, Glasgow; bicarbonate of cwt casks, £6 10s., and 1 cwt. casks £6. 15s. nett, Liverpool; ate of potash, 4½d. nett, for Scotch and English deliveries (for ¼d. nett, f.o.b. Glasgow); bichromate of soda, 3¾d. nett, for nd English deliveries (for export, 3½d. nett, f.o.b. Glasgow); of potash, 7¼d. less 5%, Liverpool; nitrate of soda, 9s. 10½d.; of ammonia, £13. 17s. 6d. to £13. 18s. 9d. prompt, f.o.b. Leith; niac, first and second white, £39. and £37. nett, any port; of copper, £15. 10s., less 5% Liverpool; paraffin scale, hard 1⅞d. d. to 2d. per lb.; paraffin wax 120° semi-refined 2⅜d. to 2½d.; spirit (naphtha), 3½d. to 4d. per gallon; paraffin oil (burning), No. 1 grade, 5d. at works, for Scotch buyers (English sales, ¾d. lower); ditto (lubricating) 865° £3. 10s. to £3. 15s.; . to £4. 15s., and 890/895° £4. 15s. to £5. 10s. Week's of raw sugar at Greenock were 13,560 bags and 6,869 baskets.

TYNE CHEMICAL REPORT.

TUESDAY.

is very little news to report in the Chemical market. Ship- continue to be fairly up to the average. Bleach in fair at £7. 10s. and £7. 15s.. Caustic quiet, at £9 for nd £10. 10s. and £10. 15s. for 76/77%. Sulphur dull, at . 6d. per ton. Other prices unaltered.

hing Powder, softs, £7. 10s. per ton, nett; hards, £7. 15s per ton, austic soda, 76/77%, £10. 15s. per ton, nett; do., 70%, £9. nett; recovered sulphur, 2 cwt. bags, £3. 17s. 6d. per ton, nett; h, 48%, £3. 12s. 6d. per ton, nett; do., 52%, £3. 16s. 3d. nett; do, 56%, £4. per ton, nett; alkali, 36%, £2 15s. per ton, nett; white alkali, 48%, £4. 10s per ton, nett; do., 50%, £4. 15s. per ton, nett; do., 52%, £5. 5s. per ton, nett; hyposulphite of soda, 5-7 cwt. casks, £5. per ton, nett; do., 1 cwt. kegs, £5. 10s. per ton, nett; silicate of soda, 75° Tw., £2. 17s. 6d. per ton, nett; do., 100° Tw., £3. 12s. 6d per ton, nett; do., 140° Tw., £4. per ton, nett; soda crystals, casks, £2. 1s. per ton, gross weight; do., 2 cwt. bags, £2. 1s. per ton, nett; chlorate of potash, 7½d. per lb., less 6%; pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £4. 2s. 6d. per ton, nett; blanc fixe, £7. 10s. per ton, nett; chloride of barium, £7. 10s. per ton, nett; carbonate of alumina, £28. 15s. per ton, nett; aluminate of soda, £33. 15s. per ton, nett; in 5 ton lots, £28. 10s. per ton, nett.

Salt: South Durham firm, and scarce at 10s. per ton, f.o.b. Tees.

Coals are still quiet, and the prices generally keep well up. Collieries continue working fairly well. Best Northumbrian steam, 10s. per ton; second qualities, 9s. per ton; small steam, 4s 6d. and 4s. 9d per ton. Gas coal nominally 7s. 3d. per ton. Coke firmer, at 13s. and 14s. per ton.

HULL PAINT, OIL, AND COLOUR REPORT.

TUESDAY.

OILS.—The holidays here do not appear to have been very prolonged or general, still their influence from the country has been accompanied by a scarcity of orders. During the week 2,465 tons of cotton-seed have arrived from Alexandria, 7,530 qrs. of Linseed from Bombay, and 1,720 qrs. rapeseed from Odessa. Amongst the principal imports up to date this year compared with same time a year ago are the following:—Linseed 182,871 qrs., against 134,900 qrs.; rapeseed 44,675 qrs., against 15,814 qrs.; cottonseed 106,816 tons, against 101,664 tons; olive oil 9,724 casks, against 5,361 casks; rape oil 3,451 casks, against 2,972 casks; oil cakes 8,876 tons, against 8,192 tons; tallow 8,100 cwts., against 11,491 cwts.; turpentine 4,352 barrels, against 3,476 barrels. Linseed oil is about 7s. 6d. per ton lower closing with sellers at 20s 3d. naked spot; June-August offer at 19s. 6d , and September-December at 18s. 6d. Boiled and refined extra from £1 to £2 per ton. Export for the week 2,860 cwts. Refined cottonseed oil 5s. per ton lower; spot offers at 19s. 3d. naked; and June-August at 19s 6d.; for November-April there are sellers at 17s. 9d, Export of refined for the week 3,940 cwts. Rape oil continues cheap and in good supply. Turpentine, 22s 9d. per cwt. Castor oil, first pressure, from 2¼d. per lb Cod oil from £17. to £19. per ton. Sod oil, for tanners, curriers, etc., from £16. to £19. per ton Pale seal oil 20s. per cwt. Engine and cylinder oils from 1s. to 2s. per gallon.

CAKES —Linseed cakes quiet but steady 95% pure. £6. 15s. to £7. per ton; Russians, £6. 17s. 6d. Oilcakes, £6. 2s. 6d. Cotton cakes: A quieter feeling; but as oil is lower and seed in limited supply, prices show little change though lower prices have been accepted: best makes, £4. 2s. 6d to £4. 5s.; seconds, £4. Rape cakes: East India, £4. 2s. 6d.; Black Sea, £3 7s. 6d.

PAINTS.—Orders continue plentiful, still more business is really anticipated when finer and more seasonable weather sets in. Prices are: —Venetian red dry, £3. 10s. per ton; blue black, £4. 5s. per ton; mineral black, £3. 15s. Good quality yellow ochre dry, £3 10s. per ton. White and red leads unchanged. Oxide of iron £9. to £18. per ton. Common Black Varnish, £5. 10s. per ton in barrels free. Oak varnish from 5s 6d. per gallon.

THE METAL MARKETS.

LONDON, WEDNESDAY.—Pig iron, dull: Scotch warrants closed at 41s. 4d., Middlesbrough 35s. 1d. cash, and hematite 43s. 5d. Copper, firmer: Chili bars, G.O.B.'s and G.M.B.'s, closed at £39. 5s. to £39. 10s. 0d. cash, and £39. 11s. 3d. to £39. 16s. 3d. three months. Tin, quiet: Straits closed at £71. 10s. to £72. cash, and £71. 17s. 6d. to £72. 7s. 6d. three months; Australian, £71. 17s 6d. English ingots, £75. to £75. 10s.; Lead, steady: Spanish, £9. 2s. 6d. to £9. 3s. 9d.; English, £9. 5s. to £9. 7s. 6d. Silesian Spelter, ordinary, £15. 15s. 0d. Nickel, 1s. 8½d. Antimony, £33 10s. Quicksilver: First hands, £6 0s.; second hands, £5. 19s. *Copper shares*, firm: Cape, 1¼ to 1⅜; Copiapo, 1 1/16 to 1 1/16; Libiola, 2⅞ to 3⅛; Mason and Barry, 2½ to 2⅝; Rio Tinto, 14⅜ to 14½; Tharsis, 4½ to 4⅝.

GLASGOW, WEDNESDAY.—Market flat, with small business. Scotch done at 41s. 4½d. and 41s. 3½d. cash, also at 41s. 6d. one month; closing with buyers at 41s. 4d. cash, sellers ask 41s. 5d. Cleveland closes with buyers at 35s. 1d. cash, sellers ask 35s. 2d. Cumberland hematite done at 43s. 4½d. seven days; closing with buyers at 43s. 5d. cash, sellers ask 43s. 6d. Middlesbrough hematite closes with buyers at 43s. cash, sellers ask 43s. 1½d.

THE COPPER MARKET.

Messrs. Harrington and Co., in their fortnightly report, dated Liverpool, May 16th, 1894, state :—

Chili Charters for the past fortnight are cabled as 450 tons, making the total since 31st December last 6,850 tons, against 6,900 tons same time last year. Exchange 11¾d. Since our last we have had a firmer market for G O B's and G.M.B's, opening at £39. 6s. 3d. cash and £39. 16s. 3d. three months; prices daily advanced till £40 1s. 3d. and £40. 10s. respectively was paid on the 10th, there was then a reaction, and we close to-day at £39 8s 9d. cash and £39. 17s. 6d. three months Total sales about 5,000 tons. The total stocks in Liverpool, Swansea, London, and Havre are 43,159 tons, against 43,206 tons on the 2nd inst., showing a decrease of 47 tons for the fortnight. The stocks include about 1,100 tons of copper sold, but not yet delivered to smelters. The visible supply for the fortnight is 46,283 tons, against 46,805 tons on the 2nd inst., showing a decrease of 522 tons. The stock of English G.M.B.'s in Liverpool reduced from 3 to 2 tons. Refined and manufactured sorts are dull, and very little doing; quotations being :—Tough cake, £41. 15s to £42. 5s ; best select, £42. 15s. to £43. 5s. ; Indian sheets, £47. 10s. to £47. 15s. ; strong sheets, £50. 10s. to £51. ; and yellow metal sheets, 4⅝d. per lb.

The sales of furnace material comprise—230 tons Mexican Ore, at 7s. 3d. ; 1,255 tons Chili Ore (Copiapo Mining Company), at 7s. ; 200 tons Portuguese Ore (low produce), to arrive, at 7s ; 50 tons Chili Ore, at 7s. 3d. ; 13 tons Peruvian Ore, at 7s. ; 30 tons Cueva de la Mora Precipitate, at 7s. 9d. per unit ; 59 tons Argentiferous Peruvian Matte, and 9 tons Argentiferous Chili Regulus, both on private terms. It is reported that 2,000 tons Columbia Matte have been sold at 7s. 10½d. per unit for delivery, July and up to the end of the year, but this requires confirmation.

New Companies.

Geo. Hadfield and Co., Limited.—CAPITAL £16,000., in shares of £10. each. This Company has been formed to acquire the business of chemical and artificial manure manufacturers, now carried on by S and H Horton, at Lightbody, Liverpool. The subscribers to the memorandum of association are :—H. Horton, Lightbody-street, Liverpool, manure manufacturer ; S. Horton, Lightbody-street, Liverpool, manure manufacturer ; W. Horton, Lightbody-street, Liverpool, clerk ; C. J. Williams, Lightbody-street, Liverpool, clerk ; J. E. Horton, Lightbody-street, Liverpool, clerk ; L. V. Horton, 38, Belvidere-road, Liverpool, spinster ; E. J. Horton, 38, Belvidere-road, Liverpool, spinster.

Electric Motive Power Co., Ltd.—CAPITAL £20,000., in £1. shares. This Company has been formed to carry on the business of electricians and electrical engineers. The subscribers to the memorandum of association are :—Gordon Cox, Salters' Hall Court, E.C., solicitor ; D. G. Fitzgerald, 94, Loughboro'-road, S.W., electrician ; C. T. J. Oppermann, 2, Wynyatt-street, E.C., electrical engineer ; B. Hilliard, Florence-road, Ealing, W., gent. ; E. J. Clubbe, Whiteley, Uxbridge, electrical engineer ; A. W. Southey, Rosenthal, Denmark-road, S.E., electrical engineer.

Gazette Notices.

PARTNERSHIP DISSOLVED.

A. GREENHALGH and C. HEYWOOD, dyers and bleachers, Radcliffe, under the style of C Heywood and Co.

BANKRUPTCY ACTS, 1883 and 1890.

Adjudication.

LAKE, ALFRED ERNEST, Clapham-road, S.W., and WILLIAMS, ERNEST F[REDERICK], Charlwood-road, Putney, S.W. (trading as Lake and Williams, Limehouse, E.C., and as the South London Paint and Varnish Co., Clapham-road, oil, paint and varnish merchants.

The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of George E. Davis and Alfred R. Davis, who report professionally upon the value of Chemical Patents.

APPLICATIONS FOR ENGLISH LETTERS PATENT

Manufacture of Acetate of Lead. J. F. Hutcheson. 9,004. May 7.
Manufacture of Explosives. H. J. P. Sprengel. 9,017. May 7.
Improvements in the Analysis of Gases and Gaseous Mixtures. Uehling and A. Steinbart. 9,049. May 7.
Improvements in Electrolysis. H. Blumenberg. 9,129. May 8.
Apparatus for Delivering Soap in a Liquid or Plastic State. Weichbrodt and E. S. Hirsch. 9,144. May 8.
Removing the Green Colour from Paraffin, Vaseline, and Lubricating Oils. A. Wendtland. 9,179. May 9.
Apparatus for Calcining Dolomite and Lime, etc. W. Cliff and Mannaberg. 9,187. May 9.
Production of Hydrocarbon Gas and Metal Sulphates as Bye-product. H. and S. H. Hawkins. 9,197. May 9.
Manufacture of Ganister for Lining Furnaces. B. G. Davis—9,198. May 9.
Improved Funnel. R. S. O. Bramwell. 9,199. May 9
Manufacture of Guano and Extracting Fats from Animal Refuse. Zingler and W. Chattaway. 9 200. May 9
Improved Bunsen Gas Burners. F. Graf. 9,209. May 9.
Kilns for Burning Cement and other Minerals. E. Cramer. 9 270.
Apparatus for Obtaining Salt from Brine. R. Hodgson. 9,250.
Manufacture of Cyanides. H. W. Crowther, E. C. Rossiter and G. S. A[dams]. May 10.
Manufacture of Electrodes. C. Kellner. 9,285. May 10
Manufacture of Artificial Indigo-White and Bodies related to Indigo-Group. J. Y. Johnson. 9,291. May 10.
Improvements in Apparatus for Electrolysis. C. R. Hall, junr. May 11.
Purifying Sewage and Putrescible Waters. O. Schmidt. 9 338.
Improved Valve or Regulator for Gas and Chemical Works. T. and C. E. Scull. 9 395. May 12.
Improved Filter. W. Dalton. 9,419. May 12.

IMPORTS OF CHEMICAL PRODUCTS
AT
THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending May 12th.

Acetanilide—		
Holland,	14 pkgs.	Beresford & Co.
Acetic Acid—		
Holland,	100 pkgs.	Beresford & Co.
,,	84	J. Owen
,,	2	A. & M. Zimmermann
Belgium,	150	D. C. Thomas & Sons
,,	45	Sawer, Sons & Co.
Acetone—		
Holland,	20 pkgs.	A. & M. Zimmermann
,,	2	Beresford & Co.
Alkali—		
Belgium,	4 c.	Arnati & Harrison
France,	230	,,
Ammonium Chloride—		
Holland,	4 pkgs.	Kaltenbach & Schmitz
Asbestos—		
France,	£80	Mory & Co.
Barytes—		
Belgium,	42 cks.	A. Zumbeck & Co.
,,	61	D. Storer & Sons
Holland,	22	W. Pope & Co.
,,	46	O'Hara & Hoar
,,	62	D. Storer & Sons
,,	5	J. L. Lyon & Co.
Belgium,	17	,,
,,	200 bgs.	Jantzen & Co.
Castor Oil—		
Italy,	30 cs.	Stebbing & Co.
France,	25 brls.	Beresford & Co.
,,	26	Lucas & Spencer's Wf., Ld.
E. Indies,	82 cks.	Cayzer, Irvine & Co.
,,	33	Ross & Deering
,,	50 cs.	L. & I. D. Jt. Co.
Belgium,	12 brls.	Fuerst Bros
Caoutchouc—		
E. Indies,	62 c.	L. & I. D. Jt. Co
U. States,	3	Major & Field
Madagascar,	389	Procter Brs.
,,	2	Prop. Bull Wf.
Rangoon,	216	L. & I. D. Jt. Co.
River Plate,	150	,,
Mananjara,	66	,,
Madagascar,	77	,,
Mauritius,	11	,,
,,	264	Kleinwort, Sons & Co.
,,	7	Blythe, Green & Co.
Cape,	18	Hammond & Co.
Madagascar,	21	,,
Holland,	4	A. G. Robinson & Co.
P. E. Africa,	16	Patry & Pasteur
,,	127	Kleinwort, Sons & Co.
Germany,	60	T. H. Lee
Zanzibar,	9	Anderson, Weber & Smith
E. Indies,	144	Wrightson & Son
,,	82	A. Howden & Co.
,,	58	Ralli Brs.
Carbonic Acid Gas—		
Holland,	306 tbs.	J. Barber & Co.
Caustic Potash—		
France,	200 c.	F. W. Berk & Co.
Chemicals *(otherwise undescribed)*		
France,	65 pkgs.	G Lamaille & Co.
U. States,	42	W. H. Smith
Germany,	56	T. H. Lee
,,	1	Craven & Co.
,,	91	A. & M. Zimmermann
,,	£12.	Phillipps &
Belgium,	£10.	Beresford
Holland,	25 pkgs.	Spies Bros
Copperas—		
Germany,	31 pkgs.	J. Kitch
Cream of Tartar—		
France,	16 pkgs.	B. & F.
Spain,	24	,,
France,	5	W. C. Bacon
Holland,	14	Kirkpatrick
Italy,	8	Fellows, Morton
Dextrine—		
Germany,	50 pkgs.	M.
Dyestuffs—		
Argols		
Italy,	51 pkgs.	Thame & L.
Spain,	217	M. Isaacs
Cochineal		
Canaries,	27 pkgs.	Marshall &
Cutch		
E Indies,	600 pkgs.	R. G. Ha
Rangoon,	100	Heare, Wilso
,,	100	H. G
E. Indies,	600	Ross &
France,	50	T.

Divi Divi
E. Indies, 50 pkgs. Hoare, Wilson & Co

Extracts
Belgium, 100 pkgs. T. H. Lee
" 1 cs. T. Palmer
Germany, 4 cks. T. H. Lee
Canada, 120 Furness, Withy & Co.

Gambier
E. Indies, 271 pkgs. Brinkmann & Co.
" 272 Ross & Deering

Indigo
E. Indies, 16 chts. Elkan & Co
" 10 Ralli Bros.
" 39 Arbuthnot, Latham & Co.
" 37 Montgomerie & Co.
" 74 L. & I. D. Jt. Co.
" 7 Croysdale & Co
" 5 Ross & Deering
Belgium, 1 T. Palmer

Kyrabolams
E. Indies, 5,142 pkgs W. Shelcott
Cochin, 210 J. P. Alpe & Co.
E. Indies, 667 Whitstable S. Co.

Saffron
Spain, 2 pkgs. Richardson, Spence & Co.

Sumac
Italy, 210 pkgs. Union L. Co

Tanners' Bark
Belgium, 44 t. Leach & Co
Natal, 10 A & W. Nesbitt
" 13 Flack, Chandler & Co.

Turmeric
E. Indies, 200 pkgs. Prop Sun. Wf.
Cochin, 156 J. P. Alpe & Co.
" 111 Union L. Co.

Valonia
A. Turkey, 13 t. Beresford & Co
" 256 Boutcher, Mortimore & Co.

Dyestuffs (*otherwise undescribed*)
France, 30 pkgs. Prop. Hay's Wf.
Canaries, 13 Kuhner, Henderson & Co.

Farina—
Belgium, 50 pkgs. T. H. Lee
France, 3 Hernu, Peron & Co.
Germany, 100 Prop Scott's Wf.

French Chalk—
Italy, £100. W. Harrison & Co.

Gamboge—
E. Indies, 43 cs. L. & I. D. Jt. Co.

Glucose—

Germany,	15 pkgs	123 c.	Prop Chmbln 's Wf.
U. States,	730	1 765 c.	"
"	70	385	T. M. Duche & Sons
"	200	200	Beck & Pollitzer
"	2,850	11,862	L. Sutro & Co.
"	400	2,200	F. J Warren
"	200	200	C F. Webster & Co.
"	250	250	Seaward Brs., Ltd.
"	500	500	G. Hedges & Son
"	250	250	Ohlenschlager Brs.
"	100	100	B. & N. Whvs. Co.
"	100	620	R. G. Hall & Co.
"	205	268	Un. Lgtge. Co., Ltd.
Germany,	28	233	M. D. Co.

Magnesium Carbonate—
Holland, 70 pkgs. Beresford & Co.

Magnesium Chloride—
Belgium, 34 pkgs R. W. Greeff & Co.

Manganese—
Japan, 235 t. A Macpherson & Co.

Manure—
E. Indies, 493 t. A. Hunter & Co.
— 170 "
France, 410 "
" 212 J. Burnett & Sons
U. States, 3,100 Anglo Cont. Guano Wks.
E. Indies, 100 F. J. Cornwell, Son & Co.
" 62 Fox, Roy & Co.
Belgium, 70 H. & E. Albert

Methyl Alcohol—
Germany, 4 dms. Elkan & Co.
Belgium, 7 10 sks. Lister & Biggs
Germany, 27 Stein Bros.

Mica—
E. Indies, £770 W. M. Smith & Sons
U. States, 24 "

Ochre—
Holland, 19 pkgs Phillipps & Graves
France, 30 cks L. & I. D. Jt. Co.

Oxalic Acid—
Holland, 2 pkgs. Beresford & Co

Paraffin Wax—
U States, 106 brls H. Hill & Sons
" 90 Rowatt's Wf. Co.
" 169 G. H. Frank
" 149 Mordaunt Brs.
" 470 cs Anglo-Amer. Oil Co.

Phosphate Rock—
France, 235 t. Lawes Manure Co.
" 200 Arnati & Harrison
" 112 A. Hunter & Co.
Belgium, 200 Miller & Johnson

Pitch—
Holland, 2 cks Poth Hille & Co.

Plumbago—
Germany, 147 cs. Prcp. Scott's Wf.
" 66 G. S. N. Co.
Ceylon, 31 brls A. Howden & Co

Potassium Bicarbonate—
Holland, 75 c A. & M. Zimmermann

Potassium Bioxalate—
Holland, 4 pkgs. Beresford & Co.

Potassium Carbonate—
Germany, 18 c Beresford & Co.
" 60 Fellows, Morton & Co.
France, 105 Petri Brs.
" 40 F. J. Putz & Co.
" 80 Spies Brs. & Co.
" 25 J. A. Reid

Potassium Cyanide—
Holland, 37 pkgs. Beresford & Co

Potassium Oxalate—
Germany, 20 pkgs. F. Boehm

Pumice Stone—
Italy, 11 t. Nelson, Emery & Co
" 2 E. Fellingham

Pyrites—
Spain, 1,250 t. C. L. Vasey & Co.

Quicksilver—
Uruguay, 40 btls. L. & I. D. Jt. Co.

Rosin—
U. States, 2,302 brls. Prod. Brokers Co.
" 1,000 Fairclough, Dodd, & Co
" 1,789 F. & S. Chiesman & Co.
France, 9 Flageollet & Co.
" 15 Lucas & Spencer's Wf.
Germany, 3 Magee, Taylor, & Co.
Holland, 20 Phillipps & Graves
U. States, 750 J. Knight & Son
" 1,400 G. Nutter & Co.

Saltpetre—
Germany, 146 cks. P. Hecker & Co.
" 8 Petri Brs.
" 46 Brown & Elmslie
E. Indies, 602 bgs. Lucas & Spencer's Wf.
Germany, 40 J. Hall & Son

Silica—
Germany, £200 A. Haacke & Co.

Sodium Acetate—
France, 28 pkgs. Johnson & Hooper

Starch—
Germany, 50 pkgs. Seaward Brs.
" 120 Phillipps & Graves
" 300 Horne & Co.
Belgium, 190 F. Rosenthal & Co.
" 176 Leach & Co.
Holland, 80 G. Rahn & Co
" 186 Magee, Taylor, & Co.
" 110 Phillipps & Graves
" 82 Little & Johnston
U. States, 125 Oswego Co.
Belgium, 140 F. Claydon & Co.
" 375 Prop. Scott's Wf.

Stearine—
France, 612 bgs. Beresford & Co.
" 22 H. Hebl & Co.
" 100 Bennett S.S. Co
Belgium, 6 cks. D. C. Thomas & Sons
" 76 H. Hill & Sons
Holland, 136 pkgs. Palmer & Co., Ltd.

Sulphur—
Italy, 10 t. G. Boor & Co.

Talc—
Italy, £80 Davies, Turner, & Co.

Tartaric Acid—
Holland, 18 pkgs. Kirkpatrick & Co.
" 12 B. & F. Wf. Co.

Tin Oxide—
Germany, 4 cks. H. Lambert

Turpentine—
France, 38 cks. B. & F. Wf Co., Ltd.

Ultramarine—
Germany, 15 cs. J. Kitchin, Ltd.
Belgium, 4 cks. Leach & Co.
Holland, 4 Hernu, Peron, & Co.
" 2 Phillipps & Graves

Varnish—
Germany, 23 pkgs. L. & I. Dk. Co.
France, 19 Flageollet & Co.
" 15 Suter, Hartmann & Co.

Verdigris—
France, 1 pkge. H. Lorenz
" 8 B. & F Wf. Co.

Vermilion—
Germany, 1 cs. Phillips & Graves
Hong Kong, 20 pkgs. J. Swire & Sons

White Lead—
Austria, 138 pkgs. M. D. Co.
France, 19 cks. J Watt & Son
" 18 A. J Humphrey
Germany, 12 H. Lambert
" 27 T. H. Willoughby
" 83 Randall Brs.
" 35 M. Ashby, Ltd.
Holland, 37 "

Wood Pulp—
Norway, 600 pkgs. J. Dickinson & Co.
" 150 A. H. Keep
" 100 C. Christophersen & Co.
Canada, 2 320 Phillipps & Graves
" 19,726 E. J. & W. Goldsmith
Germany, 500 "
" 131 Craven & Co.
Denmark, 280 F. F. Green & Co.
Norway, 480 W. G. Taylor & Co.
Germany, 500 Elkan & Co.
" 1,015 W. Friedlander
Holland, 432 E. J. & W Goldsmith
France, 20 bls. J. Burnett & Sons

Zinc Oxide—
Holland. 19 brls. M. Ashby, Ltd.
Germany, 50 "

Zinc Sulphate—
Germany, 19 pkgs Grosscurth & Luboldt

Zinc Sulphide—
Holland, 20 cks A. Zumbeck & Co.

LIVERPOOL.

Week ending May 10th.

Acetate of Lime—
New York, 881 bgs.

Acetic Acid—
Rotterdam, 17 brls.

Antimony—
Antofagasta, 493 sks.

Antimony Ore—
Antofagasta, 258 bgs. Brownells & Co.
" 153 sks. Vivian, Younger & Co.
" 146 A. Gibbs & Sons
" 374 Kleinwort, Sons, & Co
330 bgs. Aillon, Aramayo

Barytes—
Antwerp, 28 cks.
Rotterdam, 18

Borate of Lime—
Antofagasta, 750 bgs D. Maclean & Co.
" 76 sks. A. Gibbs & Sons
" 2,250 bgs.

Borax—
Rotterdam, 1 ck.

Castor Oil—
Leghorn, 19 cs.

Chrome Ore—
Baltimore, 25 cks. P. R M'Quie & Son

Colours—
Stettin, 44 cks.
Sierra Leone, 8 bgs. Cie Francaise & Co.
Rotterdam, 7 cks. 1 cs.

Cottonseed Oil—
Baltimore, 100 brls.
New York, 6 W. Bell
" 6

Cream of Tartar—
Barcelona, 5 cks. 2 hds.

Dyestuffs—
Algarobilla
Coquimbo, 50 bgs. Schintz & Co.
" 93
Cochineal
Teneriffe, 6 bgs. Widow, Duranty & Son
Extracts
N. Orleans, 100 cs. Miller Tanning Extract Co.
Halifax, N.S., 200 cks. Boutcher, Bacon & Co.
New York, 5 brls.
Bordeaux, 75 cks.
Nantes, 575 brls. Oak Extract Co.
Baltimore, 30 R Schoesser & Co.
Fustic
Tampico, 1,500 ps.
Gambier
Singapore, 336 bgs. R. & J. Henderson
" 4,724
Logwood
Philadelphia, 100 bxs.
New York, 702 ps. B. Ackerley & Son
" 35 t. Widow, Duranty & Son
Saffron
Valencia 4 cs.
Shumac
Palermo, 500 bgs.

Glucose—
New York, 502 brls. T. M. Duche & Sons
" 350
Baltimore, 300

Paint—
Boston, 70 cs. M. Nicol & Co.
" 50 Bahr, Behrend & Ross
" 20

Paraffin Scale—
New York, 236 brls. Thompson & Bedford Co.

Phosphate Rock—
Pt. Royal, S.C., 3,000 t.

Phosphoric Acid—
Hamburg, 12 cks.

Potash—
Rouen, 107 cks. Co-op. W'sale Society, Ld.

Pumice Stone—
Leghorn, 23 cs.
Messina, 4 cks.

Pyrites—
Huelva, 2,886 t. Matheson & Co.

Rosin—
Baltimore, 1,000 brls.

Saltpetre—
Hamburg, 50 brls.

Soap—
New York, 2 cs.
Leghorn, 585 bxs. Weaver & Sterry
Naples, 290 cs. P. Behrends

Sodium Nitrate—
Iquique, 8,758 bgs.
Pisagua, 33,746

Starch—
New York, 500 bgs.
Philadelphia, 50 100 brls.
Antwerp, 196 cs.
Rotterdam, 133

Stearine—
New York, 25 hds.

Sulphur—
Catania, 187 bgs. 34 brls.

Tallow—
Boston, 20 hds.
New York, 100 tcs. Eastman's, Ld.
Oporto, 3 brls.

Tar—
Wilmington, 4,189 brls.

Tartar—
Bordeaux, 32 cks.

Ultramarine—
Rotterdam, 1 ck.

Waste Salt—
Hamburg, 187 t.
Harburg, 259,591 kilos.

White Lead—
Rotterdam, 54 cks.

Zinc Oxide—
Antwerp, 105 brls.
Rotterdam, 50 cks.

MANCHESTER.

Week ending May 12th.

Acetic Acid—
Rotterdam, 9 clys.
Albumen—
Hamburg, 3 cks.
Alumina Sulphate—
Rotterdam, 221 cks.
Barytes—
Hamburg, 4 cks.
Carbonic Acid—
Rotterdam, 10 tubes.
Chemicals *(otherwise undes.)*—
Rotterdam, 1 ck Simpson, Howden, & Co.
Hamburg, 6 1 cs.
Colours—
Rotterdam, 55 cs. 12 cks 13 brls. 2 hxs. Simpson, Howden, & Co.
,, 56 cks. 2 brls.
Stettin, 69 cks. Duckworth & Co.
,, 24
Hamburg, 1 pkge.
Treport, 3 1 cs.
Cottonseed Oil—
Antwerp, 29 brls.
Cream of Tartar—
Rotterdam, 22 cks.
Dextrine—
Stettin, 20 cks. Albion Chemical Co.
,, 200 bgs.
Dyestuffs—
Alizarine
Rotterdam, 22 cks. Simpson, Howden, & Co
Farina—
Stettin, 800 bgs.
Lead Acetate—
Rouen 60 cks.
Lime—
Antwerp, 133 bgs.
Litharge—
Rotterdam, 16 cks.
Minium—
Rotterdam, 1 cs.
Oxalic Acid—
Rotterdam, 15 cks.
Pitch—
Hamburg, 33 brls.
Rotterdam, 32 cks.
Soap—
Rotterdam 1 cs. Simpson, Howden, & Co.
Soda—
Rotterdam, 25 brls Simpson, Howden, & Co
Starch—
Hamburg, 100 bgs.
Rotterdam, 130 cs. 5 cks.
Antwerp, 90
Tartar—
Bordeaux, 1 ck. J. & P. Hutchinson
Tartar Emetic—
Hamburg, 5 cks.
Tartaric Acid—
Rotterdam, 19 cks. 20 kgs. Simpson, Howden, & Co.
,, 10 cks.
Ultramarine—
Hamburg, 8 cks.
Varnish—
Hamburg, 1 ck.
Waste Salt—
Hamburg, 248 bgs.
Zinc Oxide—
Rotterdam, 100 brls. Simpson, Howden, & Co.

HULL.

Week ending May 12th.

Acid—
Hamburg, 10 kgs. Wilson, Sons, & Co., Ltd.
Bari, 93 pks. ,,
Alum—
Rotterdam, 39 cks. W. & C. L. Ringrose
Barytes—
Antwerp, 100 bgs. 75 cks Bailey & Leetham
Rotterdam, 49 cks. Hutchinson & Son
Bremen, 63
Cellulose—
Trieste, 200 bls. Wilson, Sons, & Co., Ld.
Chemicals *(otherwise unescribed)*
Stettin, 1 ck.
Bremen, 7 pks. Veltmann & Co.
Antwerp, 95 Wilson, Sons, & Co., Ld.
,, 10 cks. Blundell, Spence, & Co.
Colours—
Amsterdam, 2 cks. W. & C. L. Ringrose
Ghent, 2 brls.
Antwerp, 1 400 bgs. Bailey & Leetham
Flushing, 33 4 cs. Hutchinson & Son
Rotterdam, 23 9 55 pks ,,
,, 2 54 pks. W. & C. L. Ringrose
Stettin, 1 50 kgs.
Bremen, 1 cs. Veltmann & Co.
,, 4 Storry, Smithson & Co.
,, 10 Sissons Bros. & Co.
Hamburg, 20 Wilson, Sons, & Co., Ltd.
Antwerp, 1 30 brls. ,,
Dyestuffs—
Alizarine
Rotterdam, 68 cks. W. & C. L. Ringrose
,, 1 cs Hutchinson & Son
Logwood
Hamburg, 2,265 pcs. Wilson, Sons, & Co., Ld.
Sumac
Palermo, 200 bgs. Wilson, Sons, & Co., Ltd.
,, 550
Farina—
Harlingen, 540 bgs.
Ghent, 162 cs. Wilson, Sons, & Co., Ld.
Stettin, 100 bgs. ,,
Glucose—
Stettin, 800 bgs.
Lead Acetate—
Rotterdam, 6 cks. W. & C. L. Ringrose
Manure—
Drontheim, 2 bgs. Wilson, Sons, & Co., Ltd.
Mineral White—
Trieste, 50 bgs.
Ochre—
Rouen, 25 cks.
Paraffin Wax—
Hamburg, 108 bgs. Wilson, Sons, & Co., Ld
Phosphate—
Ghent, 284 t.
Bona, 300
Pumice Stone—
Rotterdam, 1 cs. Hutchinson & Son
Messina, 22 Wilson, Sons, & Co., Ltd.
Rosin—
Rotterdam, 4 cks. W. & C. L. Ringrose
Saltpetre—
Hamburg, 70 kgs. 7 cks
Soap—
Bari, 154 cs. Wilson Sons, & Co., Ld.
Sodium Nitrate—
Pisagua, 7,400 bgs. Nichs Waterhouse & Co.
Starch—
Amsterdam, 394 cs.
Antwerp, 200 Bailey & Leetham
Bremen, 986 Veltmann & Co.
Stearine—
Antwerp, 12 cks. 17 bgs. Wilson, Sons, & Co., Ld.
Sulphur—
Catania, 4,810 pks. Wilson, Sons, & Co , Ld.
,, 307 75 t.
Tartar—
Bordeaux, cks. Rawson & Robinson
Tartaric Acid—
Rotterdam, 8 cks. Hutchinson & Son
Ultramarine—
Rotterdam, 13 cks. Hutchinson & Son
White Lead—
Cologne, 50 cks.
Antwerp, 33 Bailey & Leetham
Rotterdam, 29 Tudor & Sons
Wood Pulp—
Helsingfors, 134 bls. Furley & Co.
,, 68
Zinc Oxide—
Antwerp, 25 cks. Bailey & Leetham

GLASGOW.

Week ending May 17th.

Acetate of Lime—
New York, 425 bgs.
Alum—
Hamburg. 160 cks
Aniline Colours—
Rotterdam, 12 cs. 13 cks. J. Rankine & Son
Barium Sulphate—
Antwerp, 420 bgs. 21 cks.
Barytes—
Rotterdam, 5 cks. J. Rankine & Son
Carbonic Acid—
Rotterdam, 15 tubes.
Castor Oil—
Antwerp, 35 cks.
Calcutta, 450 cs.
Chemicals *(otherwise undescribed)*
Rotterdam, 1 cs.
Chrome Ore—
Ormiba, 1,600 t. Stevenson, Carlile, & Co.
Colours—
Hamburg, 10 cks.
Rotterdam, 2 J. Rankine & Son
,, 42 pkgs.
Dyestuffs—
Alizarine
Rotterdam, 19 cks, J. Rankine & Son
,, 88 pkgs.
Argols
Bordeaux, 89 bgs.
Extracts
Rouen, 5 cks.
Logwood
Jamaica, 516 t. Wm. Connal & Co.
Farina—
Hamburg 50 bgs.
Glucose—
New York, 100 brls.
Lead Acetate—
Rotterdam, 14 cks. J. Rankine & Son
Rouen. 32
Manganese Ore—
Hamburg, 10 t.
Manganese Oxide—
Rotterdam, 4 cks. J. Rankine & Son
Ochre—
Rouen, 8 cks
Painters' Colours—
Antwerp, 4 cks.
Phosphates—
Ghent, 1,000 bgs.
Pitch—
Antwerp, 9 cks.
Potassium Carbonate—
Hamburg, 40 cks.
Rosin—
New York, 300 brls.
Saltpetre—
Hamburg. 100 cks.
Sodium Acetate—
Rouen, 31 cks.
Starch—
Antwerp, 22 bgs.
New York, 300 sks.
Rotterdam, 112 cs.
Stearine—
Antwerp, 67 bgs.
Sulphur Ore—
Seville, 810 t. Seville Sulphur & Copper Co., Ld.
Huelva, 230
Tallow—
New York, 45 tcs.
Tartar—
Bordeaux, 3 cks.
Oporto, 7
Waste Salt—
Hamburg, 32 cks.
White Lead—
Rotterdam, 31 cks. J. Ranki
Antwerp, 4
Rotterdam, 19
Whiting—
Dieppe, 30 cks. J. & J.
Rouen, 25
Wood Pulp—
Christiania, 899 b
Zinc White—
Rotterdam, 100 cks. J. Ran &

TYNE.

Week ending May 12th.

Alum Earth—
Hamburg, 18 cks. Tyne S. S.
Carbonic Acid Gas—
Rotterdam, 50 tubes Tyne S.S.
Glucose—
New York, 50 brls.
Ochre—
Carthagena, 243 brls.
Rosin—
New York, 200 brls.
Salt—
Hamburg, 508 bgs. Tyne S. S.
Saltpetre—
Hamburg, 3 cks. Tyne S. S.
Starch—
Rotterdam, 110 cs. Tyne S. S.
Antwerp, 8 ,,
Sulphur Ore—
Pomaron, 1,024 t. Mason & Ba
Waste Salt—
Harburg, 890 bgs.
White Lead—
Rotterdam, 1 ck. Tyne S. S.
Antwerp, 34 brls. ,,

GOOLE.

Week ending May 9th.

Caoutchouc—
Boulogne, 4 cks. 2 cs
Dyestuffs—
Alizarine
Rotterdam, 91 pkgs.
Logwood
Jamaica, 530 t.
Madder
Rotterdam, 5 cks.
Dyestuffs *(otherwise undescribed)*
Boulogne, 29 cks. 3 pkgs. 7 cs.
Farina—
Hamburg, 300 bgs.
Delfszyhl, 1,035
Lead Acetate—
Rotterdam, 5 cks
Potash—
Calais, 41 dms.
Saltpetre—
Hamburg, 3 cks.
Rotterdam, 185 bgs.
Starch—
Antwerp, 30 cs.
Tartaric Acid—
Rotterdam, 1 ck.
Waste Salt—
Hamburg, 403 t. 662 cks. 508 bgs.

GRIMSBY.

Week ending May 12th.

Caoutchouc—
Antwerp, 5 cs.
Rotterdam, 4
Chemicals *(otherwise undescribed)*
Hamburg, 3 cs. 7 cks.
Dyestuffs *(otherwise undescribed)*
Dieppe, 33 cks.
Farina—
Hamburg, 100 bgs.
Waste Salt—
Hamburg, 500 bgs.
Zinc Ashes—
Antwerp, 16 cks.

EXPORTS OF CHEMICAL PRODUCTS
OF
THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

ONDON.

ending May 16th.

	13 c.		£6
n,	10 t.	13	42
(Liquid)—			
	20 cyldrs.		£61
	9 c.		15
im Chloride—			
	2 t.		£74
im Sulphate—			
	3 t.		£43
,	33	6	450
m,	50		700
pe,	62	13	720
e of Lime—			
	2 t. 13 c.		£33
g Powder—			
	3 t.	2 c.	£31
	12 pkgs.		£43
	6 cks.		£46
Acid—			
a,	5 c.		£8
,	2 cs.		8
	88 cks.		500
	1		14
e.	10		6
f	40 dms.		268
oda—			
	9 t.	16 c.	£135
r,	2	14	30
s *(otherwise undescribed)*			
,	4 kgs.		£24
	2 cs.		19
	8 cks.		16
	6	4	26
d—			
	3 cs.		£25
	5 cks.		38
	1	28 kgs.	225
a,	3 c		22
burg,	6 t.	15	1,000
lucts—			
ne			
	3 cks.		£80
cene			
a,	54 brls.		£280
h			
e,	4 pkgs.		£45
l Oil			
a,	12 dms.		£340
	10		275
	24 cks.		£74
	12		93
te			
	30 brls.		£28
	1,526 cks.		708
e Oil			
	28 brls.		£90
	10 cs.		£300
	1		9
	3 cks		75
	1		20
a ine			
	50 pkgs.		£48
	20 cks.		28
	110		123
n Wax			
e.	234 bgs.		£344
	6 cs.		12
	1,475 cks.	605 brls.	£886
ia,	250	1 608 bgs.	317
e,	10		6
	801 t.		1,046
	20 brls.		11
	1,100		1,884
a,	60 fkns.		16
Tar			
Gothenburg,	30 cks.		£14
Wellington,		33 pkgs.	10
Boston,	250	300 brls.	252
Bombay	77 runs		93
Tar Oil			
Gothenburg,	260 cks.		£186
Paris,	30		55
Toluol			
Rotterdam,	44 cks.		£150
Coal Products *(otherwise undes.)*—			
Newcastle,	24 brls.		£25
Copper Sulphate—			
Wellington,	1 t.		£16
Syra,	2	10 c.	41
Gothenburg,	5	1	73
Treport,	10	5	150
Lisbon,	89	15	1,303
Batoum,	10	6	165
Cream of Tartar—			
Sydney,	20 kgs.		£64
Lyttelton,		3 c.	10
Santos,	10 cs.		49
Dunedin,		12	46
Auckland,		10	39
Disinfectants—			
Calcutta,	5 t		£43
Berbice,		13 c.	25
Paris,	2		12
Shanghai,	8	14	56
Manure—			
Jamaica,	35 t.	6 c.	£305
Guadeloupe,	147	17	1,130
Martinique,	93	8	415
Guadeloupe,	300		3,000
Nitric Acid—			
Jersey,	21 cbys		£45
Phosphorus—			
Lisbon,	2 cs.		£22
Potash Crystals—			
Brussels,	1 cs.		£30
Potash Salts—			
Adelaide,	4 t.	5 c.	£555
Potassium Chlorate—			
Uddevalla,	3 t.		£190
Boston,	5		320
New York,	10	16 c.	550
Saltpetre—			
Wellington,	1 t.		£23
Silver Nitrate—			
Calcutta,	1 cs.		£32
Soda Crystals—			
Sydney,	100 t.		£227
Cape Town,		16 c.	2
Natal,		17	2
Sulphur—			
Lisbon,	100 brls.		£71
Sulphuric Acid—			
Singapore,	12 dms.		£13
Superphosphate—			
Guadeloupe.	75 t		£600
Tartaric Acid—			
Sydney,	20 kgs.		£94

LIVERPOOL.

Week ending May 16th.

Alum—				
Cape Town,	2 t.	13 c.		£15
Sydney,	1	6		7
Montreal,	2	1		15
Smyrna,	4	10		32
Ammonium Sulphate—				
Valencia,	51 t.	12 c.		£665
Newport News,	97	4		1,411
Antigua,	22	16	1 q.	303
Alicante,	20	6		260
Barcelona,	50			625
Antwerp,	52	6	2	688
Asbestos—				
Gibraltar,	1 ck.			
Basic Phosphate—				
M Video,	5 t.		2 q.	£10
Bleaching Powder—				
Boston.	868 cks.			
Calcutta,		40 cs.		
Callao,	7			
Lisbon,	321	40 brls.		
New York,	432		50 bxs.	
Philadelphia,	285			
Rotterdam,		14		
Genoa,	50			
Havre,	25			
Newport News,	22			
Oporto,	44			
Boracic Acid—				
Antwerp,	3 t.	3 c.	2 q	£108
Borax—				
Montreal,	1 t.	1 c.		£25
Gefle,	1	4	3 q	31
Rotterdam,	3	3		70
Sydney,	1			27
Hamburg,	2	2		48
Rosario,	1	9	1	35
Havana,		12		14
Calcined Magnesia—				
Hamburg,		1 c.	3 q.	£7
Calcium Chloride—				
Hong Kong,	3 t.	1 q.		£8
Carbolic Acid—				
Cadiz,		2 c		£9
Marseilles,	1 t.	9	2 q.	72
Toronto,	1	4	3	69
Algiers.		2		9
Rouen,	2	15	3	14
Rotterdam,	5	5		272
Castor Oil—				
Sierra Leone,	5 cs.			
Caustic Soda—				
Alexandria,	6 dms.			
Barcelona,	250	20 cks.		
Bombay,	18			
Boston,	475			
Callao,	165			
Carril,	12			
Corfu,	30			
Corunna,	6			
Genoa,	35			
Hamburg,	58			
Havana,	50			
Hiogo,	15c			
Hong Kong,	36			
Lisbon,	65			
Malaga, 60 kgs.	214	14	5 brls.	
New York,	275		50 bxs	
Odessa,	105			
Palermo,	26			
Paraiba,	15			
Pernambuco,	95			
Rotterdam.	23			
St Petersburg,	400			
San Francisco,	475	15	20 cs.	
Seville,	87			
Shanghai,	50			
Singapore,	11			
Susa,	100			
Sydney,	103			
Bahia		2		
Baltimore,	295		8 bxs.	
Chicago,				
Coquimbo.	15			
Maranham,	20			
Milwaukee,	100			
Nantes,	35			
Newport News,	181			
Pasages,	100			
Philadelphia,	50			
Quebec,	47			
Rouen,	18			
Volo,	40			
Yokohama,	50			
Chemicals *(otherwise undescribed)*				
Odessa,	4 t	11 c.	2 q.	£153
Genoa,	1	8		51
Trieste,		10		16
Piræus,		6		11
Naples,	1			37
New York,	2			75
Antwerp,		15	3	30
Toronto.	1			36
Alexandria,	1			37
China Clay—				
Bombay,	106 t.			
Boston,	1,297			
Calcutta,	30			
Philadelphia,	50			
Rio de Janeiro,	6			
Chlorate of Potash—				
Yokohama,	2 t.	10 c		£140
Hiogo	17	10		930
San Francisco,	5			286
Calcutta,	2	15		162
Hamburg,	2	10		142
St. Petersburg	3	8		205
New York,	10			566
Boston,	10			572
E. London,		5		16
Shanghai,	4			235
Coal Products—				
Alizarine Oil				
Vera Cruz,	10 cs.			
Aniline Colours				
Calcutta,	1 cs.			
Shanghai,	85			
Pitch				
Boca,	26 dms.			
Cette	751 t.			
Galatz,	25 brls.			
St Nazaire,	538 t.			
Bolama,	6 cs			
Bombay,	4 kgs.			
Tar				
Philadelphia,	42 t.	13 c.		
Cabedello,	12 brls			
Lagos.	8			
Matadi,	10			
St John's, Nfld.,	40			
Sierra Leone,	18			
Coal Products *(otherwise undes.)*				
New York	5 cks.			
Cobalt Oxide—				
Antwerp,		1 c.		£36
Copperas—				
Montreal,	10 t.		1 q.	£20
Copper Sulphate—				
Venice,	207 t.	12 c.	2 q.	£3062
Rouen,	83	16		1325
Lisbon,	33	16		514
Oporto,	19	9	3	288
Naples,	60	9	2	902
Leghorn,	31	14	3	473
Trieste,	32		2	445
Genoa,	92	10	2	1384
Tampico,	25			368
Odessa.	4	19		75
Brindisi.	7	1	2	106
Gothenburg,	2	9	1	37
Stettin.	37		2	536
Marseilles,	139	17	1	2221
Italy,	20			291
Christiania,		14		10
Porto Alegre,	1			16
Rio Grande,		10		8
Valparaiso,	4	9		56
Sydney,	3			48
Galatz,		3		6
Messina,	2	3	2	31
St. John's, N'fd,		14		13
Disinfectants—				
Calcutta,		2 c.	3 q.	£6
Iron Oxide—				
San Juan,	5 t.	5 c.		£12
B. Ayres,	1	7	3	
Magnesium Carbonate—				
Paris,	70 cs.			
Magnesium Chloride—				
Bombay,	8 kgs			
Magnesium Sulphate—				
Rio de Janeiro,	100 kgs.			
Manganese—				
Zaandyk,	2 cks.			
Manganese Ore—				
Cape Town,	5 t.	12 c.		
E London,	5	17		

Manganese Sulphate—
St. Petersburg, 8 cks.

Manure—
Las Palmas, 6 t. 16 c. 2 q. £56
Teneriffe, 3 19

Ochre—
Kingston, Jam., 10 cks.

Oxalic Acid—
Barcelona, 5 t 12 c £153
Boston, 9 12 3 q. 256
San Francisco, 1 11 3 55

Paint—
Cadiz, 45 dms.
Kerassunde, 4 cks.
Manaos, 46 4 kgs. 2 cs.
Melbourne, 2
New York, 7
Panama, 18
Paysandu, 45 brls.
Penang, 100
Pernambuco, 150
Santiago de Cuba, 1
Sherbrooke, 20
Smyrna, 100
Cabedello, 37
Cameroons, 5
Cardenas, 1 cs.
Cienfuegos, 8
Constantinople, 80
Dunkirk, 7 17 dms.
Fernando Po, 20
Genoa, 2
Half Jack, 1
Havre, 3 pkgs. 3 brls.
Lagos, 60
La Union, 189
Lisbon, 4
Loanda, 200
Manila, 12
M. Video 3
Port au Prince, 4
Sierra Leone, 52 1
Smyrna, 100
Sydney, 64 dms.
Tripoli, 10
Valparaiso, 134

Painters' Colours—
Amsterdam, 6 kgs. 6 dms.
Barranquilla, 5 blk.
Bermuda, 49
Collingwood, 3 4 brls.
Constantinople, 160
Hamburg, 8 8 cks 5
Janina, 1
Kingston, Ja., 1 bx. 7 cs.
Kurrachee, 2
Manila, 3
Manzanillo, 1 kg. 5
Montreal, 30 15 15
Oporto, 67
Pernambuco, 60 45
Puerto Cabello, 5
Stratford, 4 dms 5 1
Valparaiso, 156 2 5
Vera Cruz, 100 1 2
Bahia, 23 11
Baltimore, 63
Bilbao 16
B. Ayres, 24
Dondo, 8
Galatz, 180
Halifax, 14
Kingston, Ont, 8 dms 15
Manaos, 4 1
Mauritius, 410 kgs
N. Orleans, 1
New York, 150
Orellia, 87 2 3 2
Para, 35 dms. 27 21
Quebec, 12
Rio de Janeiro, 50 40
Rotterdam, 60 bgs.
Sagua la Grande, 3
Santander, 2
Santiago de Cuba, 4
Santos, 80 kgs.
Santo Domingo, 6 tcs.
Toronto, 74 kgs 3 23 4

Paraffin Wax—
Para, 5 cks.
Rio de Janeiro, 4 cs.
Syra, 33 bgs.

Phosphorus—
Calcutta. 1 cs. £7
Yokohama, 10 14c
Hong Kong, 30 120
Shanghai, 30 300
Hiogo, 5 50

Picric Acid—
Antwerp 1 c. £6

Potash—
Genoa, 2 t. £200

Potassium Bichromate—
Vera Cruz, 1 t. 2 c. £46
Seville, 8 18
Bilbao, 1 2 2 q. 49

Potassium Carbonate—
Baltimore, 11 t. 8 c. £211

Potassium Chloride—
Valencia, 5 t. 8 c. 1 q. £61

Potassium Chromate—
Catania. 8 c. 3 q. £16

Salammoniac—
Kurrachee, 1 t. 1 c £36
Leghorn, 12 21
Varna, 9 14
Bilbao, 1 40

Salt—
Beaver Point, 200 t.
Boston, 400
Brass, 40
B. Ayres, 75 9 c.
Hamburg, 1 9
Lagos, 200 17
Miramichi, 500
M Video, 7 14
Montreal, 609
N Orleans, 300
New York, 20
San Francisco, 250
Sydney, 180
Trinidad, 76 3
Wellington, 50
Accra, 5
Akassa. 400
Antwerp, 120
Bonny, 5
Cadiz, 1
Calcutta, 5,544
Cameroons, 84 5
Conakry, 50
Iceland. 229
King's Cove, 65
Mussera, 5
Newport News, 130
New Brunswick, 80
Quebec, 20
Rio Grande, 10
Rotterdam, 359
San Francisco, 250
Sierra Leone, 104 18

Salt Cake—
Baltimore, 253 t. 12 c. £369
Gijon, 56 8 3 q. 104

Saltpetre—
Rio de Janeiro, 2 t. 17 c. 2 q. £65

Sheep Dip—
B. Ayres, 2 t. 5 c. £57
Cape Town, 2 4 68

Soap—
Alexandria, 9 brls 8 bxs.
Amsterdam, 250 cs.
Antigua, 25
Antwerp, 200
Arica 6 2
Auckland, 500
Barbadoes, 500
Belize, 250
Bombay, 1,420 50
Calcutta, 250 bblls. 10
Curacao, 270
Dunedin, 500
Gibraltar, 534
Havre, 705
Hong Kong, 50
Kingscove, 4
Kurrachee, 1,000
Loanda, 30
Lyons, 75
Macassar, 75
Malta, 30 25
Montreal, 1
Naples, 6
New York, 175 43
Pt. Natal, 1,350
Rotterdam, 300
Shanghai, 100
Singapore, 100
Teneriffe, 45
Trinidad, 500
Valparaiso, 66
Wellington, 500
Algoa Bay, 1,259
Ambriz, 50
Axim, 20
Benin, 500
Bonavista, 30
B. Ayres, 1
Cameroons, 50
C. C. Castle, 10
Cape Town, 2,375
Colombo, 2
Corfu, 6
E. London 8 1,990 2
Lagos, 146
Madras, 15
Manaos, 1,070
Matadi, 130
Mauritius, 2,116
Nassau, 5
Palma, 448
Para, 500
Ponce, 50
Pt. Elizabeth, 700
Rangoon, 501
Rouen, 75
Salaora, 4 pkgs.
Santos, 12
Savannah la Mar. 70
Smyrna, 2 brls.
Warri, 200

Soda Alkali—
Barcelona, 35 brls.
Genoa, 35
Lisbon, 90

Soda Ash—
Amsterdam, 100 bgs.
Antwerp, 467
Baltimore, 2 450 366 cks. 243 tcs.
Boston, 800 233
Cadiz, 25
Genoa, 200
Ghent, 20
Gothenburg, 150 49
Halifax, 23 brls.
Hamburg, 22 50
Havana, 3
Montreal 37
Naples, 18
Newport News, 500 5
New York. 750
Philadelphia, 63
Rio de Janeiro, 200
Smyrna, 400 25 25
Sydney, 102 9
Volo 5
Barcelona, 25
B. Ayres, 90
Calcutta, 50
Callao, 20
Chicago, 760 15
Kobe, 109
Maranham, 40
Rettimo, 100
Salonica. 60 bls.
Yokohama, 50

Soda Crystals—
Boston, 140 brls.
Gibraltar, 80 cks. 20
Halifax, 35 kgs. 20
Lisbon, 40
Malaga, 17
Montreal, 25
Salonica, 34
Alexandria, 20
Bombay, 100
Hamburg, 100 bgs.
Hamilton, 35
Malta, 100 cks.

Sodium Biborate—
Montreal, 115 brls.
Dunkirk. 20 cs.

Sodium Bicarbonate—
Alexandria, 20 brls.
Alicante, 100 kgs.
Antwerp, 80 10 18 cks.
Barcelona, 100
Cairo, 50
Cartagena, Sp., 30
Catania, 50
Danzig, 20
Genoa, 100
Halifax, 75
Meramesche, 20
Montreal. 400
Odessa, 200
Para, 10
Pt. Natal, 40
Quebec, 53
Salonica, 140
Stettin, 14
Sydney, 200
Valencia, 60
Vancouver, 3
Victoria, B.C., 3
Algoa Bay, 20 bgs.
Bombay, 20
Constantinople, 15 brls.
Gothenburg, 20
Hamburg, 45 5 4 8 pkgs.
Hamilton, 85
Havre, 50
Hiogo, 300
Kurrachee, 150
Marseilles, 60
Naples, 113
Rotterdam, 70
St. Petersburg, 250
Tunis. 15
Vera Cruz, 50

Sodium Bichromate—
Piræus, 20 cks.

Sodium Chlorate—
Yokohama, 50 kgs.

Sodium Fluorate—
Hamburg, 50 bgs.

Sodium Hyposulphite—
Calcutta, 20 kgs.

Sodium Oxide—
Melbourne, 3 cs.

Sodium Silicate—
Bilbao, 4 cks.
Lisbon, 64
Malaga, 8
Seville, 92
Sydney, 20
Galatz, 8 brls
Montreal, 55

Sodium Sulphate—
Rio de Janeiro, 50 kgs.

Stearine—
New York, 38 cks.

Sulphur—
Boston. 206 t. 10 c. 1 q.

Superphosphate—
Stettin, 420 t

Turpentine—
Lagos, 25 dms.
Manaos, 20
Vigo, 6

Ultramarine—
Yokohama, 7 brls.

White Lead—
Valparaiso, 93 kgs.

Whiting—
Valparaiso, 30 brls.

Zinc Chloride—
Bombay, 3 t. 16 c.

MANCHESTER.

Week ending May 17th.

Alizarine—
Rio de Janeiro, 1 kg.

Alum—
Rouen, 5 cks.

Ammonia—
Rio de Janeiro, 1 ck.

Bleaching Powder—
Rio de Janeiro, 5 cs.

Carbolic Acid—
Barcelona, 16 cs.

Chemicals (*otherwise undescri*
Rotterdam, 20 cks.

Copperas—
Rio de Janeiro, 7 cks.

Copper Sulphate—
Rio de Janeiro, 1 ck.

Extracts—
Rotterdam, 6 cks.

Paint—
Rio de Janeiro, 3 cs.

Paraffin Scale—
Antwerp, 14 brls.

Paraffin Wax—
Barcelona, 204 bgs. 20 cs.

Soap—
Malta, 24 cs.

HULL.

Week ending May 12th.

Alkali—
Hamburg, 1 ck.

Ammonium Sulphate—
Gothenburg, 261 bgs.
Rotterdam, 460

Benzol—
Flusbing, 23 dms.

Bleaching Powder—
Odessa, 44 cks.
Stettin, 119
Trieste, 17
Venice, 41

Borax—
Christiania, 2 cks.

Caustic Soda—
Bari, 100 dms.
Danzig, 95
Riga, 200
Reval, 15 8 cks.
Trieste, 12
Venice, 102

cals (*otherwise undescribed*)
rdam, 6 cks.
rp, 10 20 cs. 10 pkgs.
ty, 241
aux, 30
iania, 31 857 slbs.
hagen, 36 1
g, 45 1 102 pks.
nburg, 10 pkgs.
urg, 33 32 33
sberg, 5 10 pks.
chee, 542
ro, 20
10 pkgs.
York, 10
s, 50
3 100 pks.
dam, 131 94
s, 3 pkgs.
tersburg, 64
s, 34

seed Oil—
rp, 367 c.
hagen, 500
heim, 40
, 100
urg, 999
sberg, 500
dam, 2,118
s, 127
e, 202

te—
nburg, 160 cks.
urg, 21

affs (*otherwise undescribed*)
rp, 75 bgs.
iania, 10 bls.
dam, 54 cks.
, 63 1 cs.
tersburg, 10 2

ter—
a, 10 bls.

d Oil—
rp, 100 c.
ay, 517
n, 67
n, 66
antinople, 36
iania, 903
hagen, 34
iansand, 34
heim, 156
s, 95
urg, 439
chee, 80
York, 7
dam, 41
ger, 45
e, 31
s, 4

e—
215 t.
gen, 5

al White—
gen, 50 bls.
—
ay, 2 cks.

ors' Colours—
rp. 40dms. 24 cks 2 cs. 333 pks
4 6
ay, 1 39 160 pkgs.
n, 2 pks
n, 1
iania, 1
hagen, 55
g, 20 200 pkgs.
, 32
urg, 9 2
chee, 10 8 206
York, 200 20
a, 591
s, 6
8 pks.
dam, 26 cks. 1 cs. 1 pkge.
s, 50
ger, 1
tersburg, 239
e, 11
s, 22
—
rp 605 t.
n, 11 c.
irk, 260
York, 119 bls.
a, 108 cks.

heim, 50 t.

ne—
York, 41 cks.

r—
dam, 40 cks.

Tar—
Amsterdam, 20 cks.
Antwerp, 1
Bremen, 4
Danzig 5
Flushing, 6
Hamburg, 28
Konigsberg, 3
Odessa, 100
Rotterdam, 17

Varnish—
Amsterdam, 10 cks.
Antwerp, 2 5 cs
Bordeaux. 1
Christiania, 4 dms.
Copenhagen, 1
Ghent, 1 1
Gothenburg, 11 3 pkgs.
Harlingen, 1
Hamburg, 5 1 6 bls.
Konigsberg, 1 dm.
Rotterdam, 3
Stettin, 2

GLASGOW.

Week ending May 17th.

Alkali—
Brisbane, 5 t. 6¾ c. £20

Ammonia—
Bombay, 1 t. 9 c. £35

Ammonium Sulphate—
W. Indies, 24 t. 12¾ c. £305

Bleaching Powder—
Calcutta, 20 t. 2 c. £260
Philadelphia, 11 18½ 90

Boracic Acid—
Japan, 1 t. 2¾ c. £36

Borax—
Japan, 3 t. 8½ c. £68

Castor Oil—
Italy, 17½ c. £24
Alexandria, 2 t. 5¾ 60
Brisbane, 65

Caustic Soda—
Singapore, 2 t. 17¾ c £25
Brisbane. 10 4 90
N'castle.N.S.W. 15 9 195

Chloroform—
Brisbane, £33

Coal Products—
Creosote Oil
Boston, 53 t. 7 c. £160
Pitch
Bombay, 62 t. 9¾ c. £159
" 31
Italy, 202 19 304
Amsterdam, 300 420
Quebec, 29 13 45
Tar
Bombay, £34
Natal, 4 t. 17 c. 30
Brisbane, 28
Danzig, 818 brls. 329
Bergen, 2 cks. £1. 11s.
S. Petersburg, 1,244
Tar Oil
Danzig, 150 brls. £85

Copper Sulphate—
Venice, 16 t. 11¾ c. £250

Dyestuffs—
Cutch
Bergen, 1 c. £2

Lead Acetate—
Calcutta, 6 t. 2 c. £159

Linseed Oil—
Singapore, 270 gls. £29 10s.
Montreal. 8 t. 14½ c. £178
Malta, 3 4 66
Alexandria, 260 25
Cape Colony, 3 7 66
Brisbane, 375 45
Quebec, 10 6¾ 215

Litharge—
Calcutta, 1 t. 10 c. £24
Quebec, 13 7¾ 176

Magnesium Sulphate—
Brisbane, 3 t 5 c. £25
N'castle,N.S.W., 6 13¾ 48

Manganese—
Hungary, 10 t. 11 c. £105
Rotterdam, 3 9 30

Paint—
Bombay, 2 t. 2 c. £20
Calcutta, 20
Shanghai, 6 15 89
Malta, 1 13 £29. 16s.
Alexandria, 4 11¾ £63
Cape Colony, 1 9¾ 28
Mauritius, 9 14¼ 156
New York, 2 19 53
N'castle,N.S.W., 1 6¼ 26

Painters' Colours—
Bombay, 3 t. 1 c. £32
Brisbane, 10 5½ 286
Calcutta, 162
Rotterdam, 7 cks. 7 dms. 61
Chili, 4 t. 9¾ c. 58

Paraffin Wax—
Italy, 40 t. 19½ c. £1,009
Venice, 12 2¾ 382
Hungary, 1 7½ 38
Nantes, 1 18 53
Antwerp, 5 19½ 210
Lisbon, 1 ½ 30
Riga, 145 bgs. 240

Potassium Bichromate—
Italy, 12 t. 2¾ c. £472
Japan, 5 5¼ 198
Calcutta, 12 4 403
Venice, 4 4 138

Rosin Oil—
Amsterdam, 20 brls. £40
Rotterdam, 35 66

Salt—
Brisbane, 1,865 t. 10½ c. £1,766

Sheep Dip—
Chili, 9 t. 14 c. £250

Slag—
Amsterdam, 452 t. £157
Rotterdam, 387 135

Soap—
W Indies, 6 t. 7¼ c. £110

Sodium Bichromate—
Italy. 4 t. 16 c. £156

Sodium Phosphate—
Boston, 6 t. £71

Sodium Sulphate—
Quebec, 18 t. 6 c. £54

Sulphuric Acid—
Calcutta, 5 t. 8 c. £40

Tallow—
Rotterdam, 11 t 13 c. £4,0

Tin Crystals—
Lisbon, £20

Varnish—
Bergen, 3 brls. £3

White Lead—
Cape Colony, 7 t. 11¼ c. £154
Brisbane. 10 214
N'castle, N.S.W., 15 12 325
Calcutta, 1 9 30

Whiting—
Brisbane, 33 t. 15 c. £39

TYNE.

Week ending May 12th.

Alkali—
Laurvig, 10 t. 4 c.
Rotterdam, 3 7
Amsterdam, 21 16
Copenhagen, 6
Gothenburg, 10 14

Antimony—
Antwerp 2 t.
Rotterdam, 21 11

Arsenic—
Gothenburg, 18 c.

Barium Binoxide—
Hamburg, 2 t. 2 c.

Barytes Carbonate—
Rouen, 63 t. 12 c

Blanc Fixe—
Copenhagen, 4 t. 4 c.

Bleaching Powder—
Hamburg, 35 t. 5 c.
Antwerp, 80 2
Genoa, 66 1
Leghorn 7 18
Rotterdam, 55 9
Odense, 8 15
Reval, 20
Amsterdam, 13 13
Gothenburg, 22 15
Copenhagen, 17 10
Drontheim, 10

Calcined Magnesia—
Genoa, 12 c 1½ q.

Carbolic Acid—
Odense, 12 c.

Caustic Soda—
Antwerp, 5 t. 16 c.
Genoa, 69 6
Amsterdam, 9 17
Copenhagen, 1 15
Gothenburg, 9 17
Seville, 83 1

Colours—
Malta, 15 c.
Genoa, 11 t. 4

Dextrine—
Alexandria, 1 t.

Linseed Oil—
Pozzuoli, 5 t 5 c.

Litharge—
Hamburg, 6 t. 17 c.
Genoa. 1 8
Christiania, 1 6
Gothenburg, 3 19
Rouen, 8 2

Magnesia—
Hamburg, 11 c
Antwerp, 2

Ochre—
Christiania, 2 t. 17 c.
Drontheim, 1 18

Paint—
Antwerp, 1 t. 6 c.
Messina, 2 7
Rotterdam, 4

Rosin Oil—
Rotterdam, 3 t. 12 c.

Slag—
Rotterdam, 251 t.

Soda—
Antwerp, 5 t. 3 c.
Christiania, 9 19
Rotterdam, 22 3
Svendborg, 9 15
Odense, 14 15
Amsterdam, 5 18
Copenhagen, 3 5
Drontheim, 6
Gothenburg, 27 3

Soda Ash—
Hamburg, 2 t. 1 c
Gothenburg. 146 14

Sodium Silicate—
Seville, 5 t. 1 c.

Sodium Sulphate—
Helgenas, 261 t. 6 c.
Copenhagen, 1 5

Sulphur—
Antwerp, 17 t 10 c.
Christiania, 30
Sarpsborg 420
Amsterdam, 3
Gothenburg, 162

Tar—
Hamburg, 19 c.

White Lead—
Copenhagen, 1 t. 14 c.
Gothenburg, 5 6

GOOLE.

Week ending May 9th.

Alkali—
Dunkirk, 30 dms.

Chemicals (*otherwise undescribed*)
Boulogne, 2 cs.
Hamburg, 23 cks.
Rotterdam, 25

Coal Products (*otherwise undescribed*)—
Boulogne, 3 cks. 1 pkge
Ghent, 38 2 tins.
Hamburg, 2
Rouen, 12 5 pkgs.

Dyestuffs (*otherwise undescribed*)
Ghent, 1 ck.
Hamburg, 2 cks.

Manure—
Antwerp, 514 bgs.
Boulogne, 301
Hamburg. 200

Pitch—
Antwerp, 537 t.

GRIMSBY.

Week ending May 12th.

Chemicals (*otherwise undescribed*)
Antwerp, 1 ck. 20 btls.
Hamburg, 4
Malmo, 2 3 dms.

Coal Products (*otherwise undes.*)
Dieppe, 60 cks. 2 dms. 38 brls.
Malmo, 25

Salt—
Antwerp, 10 t.

PRICES CURRENT.

WEDNESDAY, May 23rd, 1894.

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 116, PORTLAND STREET, MANCHESTER.

The values stated are F.O.R. at maker's works, or at usual ports of shipment in U.K. The price in different localities may vary

	£	s.	d.
Acids :—			
Acetic, 25 °/₀ and 40 °/₀ .. ..per cwt.	6	6 &	10/6
,, Glacial.. .. .. ,,			50/-
Arsenic S.G., 2000° .. .. ,,	0	14	6
Fluoric .. .. per lb.	0	0	3¾
Muriatic (Tower Salts), 30° Tw. .. .. ..per bottle	0	0	10
,, (Cylinder), 30° Tw. .. .. ,,	0	3	0
Nitric 80° Tw. .. .. per lb.	0	0	1¾
Nitrous .. .. ,,	0	0	1¾
Oxalic .. .. nett ,,	0	0	3¾
Phosphoric, 1750° .. .. ,,	0	1	0
Picric .. .. ,,	0	1	0
Sulphuric (fuming 50 °/₀) .. .. per ton	15	10	0
,, (monohydrate) .. .. ,,	5	10	0
,, (Pyrites, 168°) .. .. ,,	3	0	0
,, ,, 150° .. .. ,,	1	5	0
,, (free from arsenic, 145°) .. .. ,,	1	6	0
Sulphurous (solution) S.G. 1025 .. .. ,,	3	0	0
Tannic (pure) .. .. per lb.	0	1	1
Tartaric .. .. ,,	0	0	11
Arsenic, white powdered .. .. nett per ton	14	0	0
Alum (loose lump) .. .. ,,	5	2	6
Alumina Sulphate (pure) .. .. ,,	5	0	0
Aluminoferric .. .. ,,	2	7	6
Aluminium .. .. per lb.	0	3	0
Ammonia, Anhydrous .. .. ,,	0	1	3
,, ·880=28° B.. .. .. per lb.	0	0	3
,, =24° B .. .. ,,	0	0	2¼
,, Carbonate .. .. nett ,,	0	0	3¾
,, Muriate.. .. .. per ton	24	10	0
,, ,, (sal-ammoniac) 1st & 2nd .. per cwt.	39/- &		37/-
,, Nitrate.. .. .. per ton	44	0	0
,, Phosphate .. .. per lb.	0	0	10½
,, Sulphate (grey) London .. .. .. per ton	13	17	6
,, ,, (grey) Hull .. .. ,,	13	17	6
Aniline Oil (pure) .. .. per lb.	0	0	5½
Aniline Salt ,, ... ,,	0	0	5¼
Antimony .. .. per ton	45	10	0
,, (tartar emetic) .. .. per lb.	0	0	10
,, (golden sulphide).. .. .. ,,	0	0	10
Barium Chloride .. .. per ton	6	10	0
,, Carbonate (native) .. .. ,,	3	10	0
,, Sulphate (native levigated) .. .. .. ,,	45/-	to	75/-
Bleaching Powder, 35 % .. .. nett ,,	7	10	0
,, Liquor, 7 % .. .. ,,	3	10	0
Bisulphide of Carbon .. .. ,,	11	15	0
Chromium Acetate (crystal).. .. .. per lb.	0	0	6
Calcium Chloride .. .. per ton	2	5	0
China Clay (at Runcorn) in bulk .. .. .. ,,	17/6	to	30/-
Coal Tar Products and Dyes :—			
Alizarine (artificial) 20 % .. .. .. net per lb.	0	0	8
Magenta .. .. ,,	0	3	9
Anthracene, 30 % A, f.o.b. London .. per unit per cwt.	0	1	1
Benzol, 90 % nominal .. .. .. per gallon	0	1	1
,, 50/90 ,, ... ,,	0	1	4
Carbolic Acid (crystallised 40°) .. .. . per lb.	0	0	6¼
,, (crude 60°) .. .. per gallon	0	1	7
Creosote (ordinary).. .. .. ,,	0	0	1½
,, (filtered for Lucigen light) .. .. ,,	0	0	2½
Crude Naphtha 30 % @ 120° C. .. .. .. ,,	0	0	5¾
Grease Oils, 22° Tw. .. .. per ton	2	10	0
Pitch, f.o.b. Liverpool or Garston.. .. .. ,,	1	8	6
Solvent Naphtha, 90 % at 160° .. .. .. per gallon	0	1	2
Lucigen " and " Wells Oils .. .. ,,	0	0	2½
Copper .. .. per ton	39	5	0
,, Sulphate .. .. ,,	15	10	0
,, Oxide (copper scales) .. .. ,,	39	5	0
Glycerine (crude) .. .. ,,	15	10	0
,, (distilled S.G. 1250°).. .. .. ,,	44	0	0
Iodine .. .. nett, per oz.	0	0	9
Iron Sulphate (copperas) .. .. per ton	1	4	0
,, Sulphide (antimony slag) .. .. ,,	2	0	0
Lead (sheet) for cash .. .. ,,	10	5	0
,, Litharge Flake (ex ship) .. .. ,,	13	0	0
,, Acetate (white ,,) .. .. ,,	25	15	0
,, ,, brown ,,) .. .. ,,	16	10	0
,, Carbonate (white lead) pure .. .. .. ,,	20	0	0
,, Nitrate .. .. ,,	20	0	0
Lime, Acetate (brown) .. .. per ton	5	17	6
,, ,, (grey) .. .. ,,	10	5	0
Magnesium (ribbon and wire) .. .. per oz.	0	2	3
,, Chloride (ex ship) .. .. per ton	2	10	0
,, Carbonate .. .. per cwt.	1	17	6
,, Hydrate .. .. per ton.	17	0	0
,, Sulphate (Epsom Salts) .. .. per ton	3	0	0
Manganese, Sulphate .. .. ,,	17	15	0
,, Borate .. .. per cwt.	2	12	6
,, Ore, 70 % .. .. per ton	4	5	0
Methylated Spirit, 61° O.P. .. .. per gallon	0	2	2
Naphtha (Wood), Solvent .. .. ,,	0	3	7
,, ,, Miscible, 60° O.P .. .. ,,	0	4	3
Oils :—			
Cotton-seed .. .. per ton	21	5	0
Linseed .. .. ,,	22	10	0
Petroleum, Russian .. .. per gallon	0	0	3¾
,, American.. .. .. ,,	0	0	5¾
Phosphorus (yellow) .. .. per lb.	0	2	2
,, (red) .. .. ,,	0	2	9
Potassium (metal) .. .. per oz.	0	3	7
,, Bichromate .. ..nett per lb.	0	0	4½
,, Carbonate, 90% (ex ship) .. .. .. per ton	16	15	0
,, Chlorate .. .. per lb.	0	0	7¼
,, Cyanide, 98% .. .. ,,	0	2	0
,, Hydrate (Caustic Potash) 80/85 % .. per ton	21	15	0
,, ,, (Caustic Potash) 75/80 % .. ,,	20	0	0
,, ,, (Caustic Potash) 70/75 % .. ,,	19	10	0
,, Nitrate (refined) .. .. per cwt.	1	2	6
,, Permanganate .. .. per cwt.	3	2	6
,, Prussiate Yellow .. .. per lb.	0	0	10¼
,, Sulphate, 90 % (ex ship) .. .. .. per ton	9	15	0
,, Muriate, 80 % (do.) .. .. .. ,,	8	7	6
Silver (metal) .. .. per oz.	0	2	4½
,, Nitrate.. .. .. ,,	0	2	10
Sodium (metal) .. .. per lb.	0	3	1
,, Carb. (refined Soda-ash) 48 % ..nett per ton	4	17	6
,, ,, (Caustic Soda-ash) 48 % . ,, ,,	4	2	6
,, ,, (Carb. Soda-ash) 48% .. .. ,, ,,	4	0	0
,, ,, (Alkali) 58 % .. .. .. ,, ,,	3	15	0
,, ,, (Soda Crystals) .. .. .. ,, ,,	2	15	0
,, Acetate (ex-ship) .. .. ,,	14	15	0
,, Arseniate, 45 % .. .. ,,	11	0	0
,, Chlorate .. .. per lb.	0	0	8¼
,, Borate (Borax) .. .. net, per ton.	23	0	0
,, Bichromate .. .. ,, per lb.	0	0	3¾
,, Hydrate (77 % Caustic Soda)(f.o.b.) net pr. ton	10	15	0
,, ,, (74 % Caustic Soda) ,, ,, ,,	10	0	0
,, ,, (70 % Caustic Soda) ,, ,, ,,	9	0	0
,, ,, (60 % Caustic Soda) .. ,, ,,	8	0	0
,, ,, (60 % Caustic Soda, cream) (f.o.b.) ,,	7	17	6
,, Bicarbonate .. .. ,,	6	12	6
,, Hyposulphite .. .. ,,	5	12	6
,, Manganate, 30%.. .. .. ,,	16	0	0
,, Nitrate (95 %) ex-ship Liverpool .. .. per cwt.	0	9	9
,, Nitrite, 98 % .. .. per ton	29	10	0
,, Phosphate .. .. ,,	15	0	0
,, Silicate (glass) .. .. per ton	5	7	6
,, ,, (liquid, 100° Tw.) .. .. .. ,,	4	5	0
,, Stannate, 40 % .. .. per cwt.	3	0	0
,, Sulphate (Salt-cake) .. .. per ton.	0	17	6
,, ,, (Glauber's Salts) .. .. ,,	1	5	0
,, Sulphide .. .. ,,	8	10	0
,, Sulphite .. .. ,,	5	15	0
Strontium Hydrate, 100% .. .. ,,	8	10	0
Sulphocyanide Ammonium, 95 % .. .. per lb.	0	0	7¾
,, Barium, 95 %.. .. .. ,,	0	0	5
,, Potassium .. .. ,,	0	0	7½
Sulphur (Flowers) .. .. per ton.	7	12	6
,, (Roll Brimstone) .. .. ,,	5	15	0
,, Brimstone : Best Quality .. .. .. ,,	3	17	6
Superphosphate of Lime (26%) .. .. ,,	2	7	6
Tallow .. .. ,,	26	0	0
Tin Crystals .. .. per lb.	0	0	6¾
English Ingots .. .. ,,	75	10	0
Zinc (Spelter) .. .. per ton	15	15	0
,, Chloride (solution, 96° Tw.) .. .. .. ,,	5	10	0

THE

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AND

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ADVERTISEMENT.

REFINERY FOREMAN WANTED for
don. State age, experience, and wages required.—Address, "Oils," *Trade Journal* Office, Manchester.

TENDER.

HALIFAX CORPORATION GAS WORKS.

Gas-Works Committee of the Halifax Cor-
ion are prepared to receive TENDERS for the supply of
ME,
LPHURIC ACID,
IDE OF IRON;
purchase of SPENT OXIDE OF IRON.
acts will be for a period of Twelve Months, commencing the 1st of July

iculars and Forms of Tender may be obtained on application to Mr.
lgate, F.C.S., Gas-Works, Halifax.
properly endorsed, must be sent to the undersigned before Ten o'clock
8th of June, 1894.
er of any person paying less than the minimum standard rate of wages,
s not observe the hours and conditions of labour generally recognised in
will not be accepted. This condition shall be construed to the acts of
tors where such may exist
mittee do not bind themselves to accept the lowest, highest, or any

By order,
KEIGHLEY WALTON,
Town Clerk.

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, and Cheques and Post Office Orders made payable to—
IS BROS., 32, Blackfriars Street, MANCHESTER.
Our Registered Telegraphic Address is—
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t prepaid, are charged at the Tariff rates, which will be forwarded on

ements intended for insertion in the current week's issue
ch the office by **Wednesday morning** at the latest.

CURRENT TOPICS.

DOES THE OIL FLASH POINT QUESTION LACK SUPPORTERS?

"O, while you live, tell truth, and shame the Devil."

THE answers given in Parliament to the questions which have recently been put in connection with the raising of the flash point of burning oils, very clearly show those who are interested in this important matter that they must alter their tactics slightly, or rather make their object in clamouring for a re-investigation of the point unmistakably clear to the authorities they are appealing to. According to the Home Secretary's reply, the question has now developed from a difficult one into an "extremely disputable one." Who are the disputants? Presumably, "the authorities" who are "opposed to any alteration."

It is quite beside the question to put the matter off because the 73 degrees standard was fixed upon after "careful experiment and inquiry." Though chemists may differ on the point, we feel confident they will not let this detail stand in the way of the public welfare and prevent the petroleum laws being brought up to date. If in accomplishing the raising of the standard to 100°F., the past actions of the authorities are made to appear faulty in the light of the advances of later years, we hardly think they need fear being hauled over the coals, and saddled with the mistakes which time itself has created. What we want, is to get those who have not given the question very great attention since 1879, to accord unbiased and due consideration to the facts elucidated by those who have continued to study the question ever since that time. To shrink from so doing will only arouse suspicions that the decision of 1879 was not altogether of the wisest. But if the authorities will only give those who are urging the change from 73° to 100° the fair play which they court, we think they will be justly afforded immunity from incrimination after a period of fifteen years, and we doubt not also given ample opportunity for honourable recantation. Who would think of decrying Priestley because, great man that he was, he died a firm believer in the phlogiston theory of combustion, which his very own crowning discovery of Oxygen eventually demolished? A fair hearing on both sides is all that is asked, and common sense and the evidence of facts may safely be trusted to accomplish the rest.

Instead of this, the day of imaginary evils is put off by raising a bogey and talking indefinitely of a Committee of Inquiry. This committee last February was spoken of as being a fitting matter for consideration "next Session." This next Session has come, but not the committee, which is now spoken of as being possibly appointed "hereafter." The intentions of the Home Secretary no doubt are good. But we do not want intentions,—they only serve as paving stones in a certain place in the "hereafter,"—attentions constitute the needful. Pressing this point, therefore, Mr. Paul, M.P., succeeded in drawing a pronouncement of prodigious import.

The Government, it transpires, would be glad to appoint a committee, but there are not sufficient Members of Parliament interested in the question to form one. There are plenty of interested individuals other than Members of Parliament however. Chambers of Commerce, Sections of the Society of Chemical Industry, Ship Canal Directors, and peoples many are very much interested. It should be further noted that they, one and all, have Parliamentary representatives. To say so much should be sufficient. The matter is largely brought into the very hands of those interested—let them see it is seen to.

THE SEWAGE QUESTION AT BRADFORD.

A new Daniel has come to judgment, this time at Bradford. Salford has so long assumed an unique position as the unraveller of the sewage Gordian knot that it is quite refreshing to find a rival has arisen in the shape of the Bradford Corporation. One thing is very certain, namely, that they have taken wise and vigorous steps towards becoming the leaders of the van in sewage matters by calling in an able scientist to assist them. It is quite possible that differences of opinion may occur between sewage experts and their adviser touching certain of his statements, but so far as the method of tackling their sewage question is concerned, and the way the character of the sewage has been investigated, Corporations and local authorities, both large and small, can profit by emulating the example of Bradford.

The volume of sewage to be treated is about ten million gallons per twenty-four hours. Professor Dewar, in the report which he has prepared, states that the sewage is the most complicated to treat in the United Kingdom. Something like this is averred by every Borough and Corporation in the country, but Bradford sewage is undoubtedly of a very complex and troublesome nature. In fact it is scarcely sewage at all, but manufacturers' refuse. The flow during the day is much larger than at night, though then the quality is about ten times worse than that of the day sewage. Further the bulk of the pollution is of a serious character in the shape of refuse from dye-becks which discharge first acid and then basic effluents, and wool-scourers' washings; the difficulty of treating which is well known to any one conversant with the nature of trade effluents. Prof. Dewar goes at some length into the composition of this kind of waste water, a somewhat superfluous procedure, and then specifies the many ways in which, on account of its fatty nature, it causes trouble, first with the precipitants, then in the coagulation of the precipitated solids, and lastly in the pressing of the sludge, of which he reckons to have to deal with 300 tons per diem, containing as much as 15 to 20% of fat.

From this the contention that as it is with paper-makers so it is with wool-washers is obvious, and it is only this week that we have an instance of the advantages accruing to paper-makers by recovering the soda from their waste liquors. Kept out of the sewage, the fat in wool-scourers' waste is useful, but once allowed to pass in it causes no end of trouble, and adds seriously to the cost of treatment. Figures showing the good results which have been attained by the treatment of wool-scourers' waste have already been given in these columns, but in the report in question inadequate stress appears to be laid upon the necessity of minimising the difficulties of treating the sewage, by preventing the introduction of avoidable pollution, which is often of itself valuable.

The sewage is an alkaline one, and Prof. Dewar makes a great point of investigating the variation of the alkalinity, a test which we have long advocated. His results are instructive. The amount of sulphuric acid required to neutra sewage was found to vary from 5 to 33 grains per gallo experiments also go to show that with Bradford sewag salts are better than ferrous, ferric sulphate being bett any other chemical for this sewage, but the cost of tre is almost prohibitive. He also considers filtratio less, as the action of sand and cinder filte pends upon the action of micro-organisms which grow in a water so charged with saline and albu ammonia. He contends that the appearance only is a without any good resulting to the water organically. ground he condemns and dispenses with filtration. up, the report advocates chemical precipitation, lan tion being no good. The process of treating will ine be costly, but in this matter the Corporation are for for they have a well-equipped and well-conducted ch works of their own at Frizinghall, and are th much to be envied. The sludge, which is burnt on account of the fat it contains favourir treatment, will, it is stated, not cause any nu which statement has naturally to be taken on trust, exact precipitant to be used is not specified, though a r of ferric sulphate and an alumina salt seems to come most consideration.

The latter end of the report is rather lacking in sp tion, but the lines which have been adopted by the C tion in investigating their particular difficulties are ver factory, and afford a sound basis for the development sequent details. Like knowledge would be of great numbers of similar instances.

THE LEGALITY OF SICK FUND DEDUCT

IMPORTANT FINAL DECISION.

The House of Lords has given judgment in a case of cons importance, which, although the amount involved is only 26s., h carried to the highest court by the Trades Union to obtain decision. A girl named Hewlett was employed by a firm of confectioners, one of whose conditions was that all workers sho tribute to a sick and benefit society connected with the works. the appellant left she sued the firm to recover the money deduc pay her subscriptions on the ground that the deductions wer under the Truck Act, which stipulated that all wages must be current coin of the realm. The Lord Chancellor held that th tions from wages with the consent of an employé for the pu keeping up membership in such a club as this were perfectly le in no way infringed the Truck Act. They were totally differe deductions made so that payment might be made by goods, in and profit of which the employer was interested.

SINGULAR ACTION FOR AN INJUNCTION.—An interesti is before the Liverpool Chancery Court in that of "Ha Horrocks." The plaintiff, Mr. W. P. Hartley, is the proprieto Aintree Jam and Marmalade Works, and when he was about Bootle and establish himself in his new works at Aintree he the defendant, who is an architect, at a salary, to assist him in out the details for the erection of the new works. As these i many improvements which he desired to keep secret from his c tors in trade, he entered into an agreement with the defendant should not at any time divulge the details to any other persons, plans, or otherwise assist anyone by disclosing the informa acquired whilst in plaintiff's service. After remaining some y plaintiff's service, defendant gave notice to leave, and ente employ of Messrs. Faulder and Co., Limited, of Stockpo manufacturers, who were erecting new works. The plaintiff's tion was that, the defendant had, as their assistant, broken his agr in all respects, and that he was now advertising himself as a sp in the erection of jam works, although all the information obtained in that respect was through his connection with the p Some prior proceedings had resulted in the Court granting an tion restraining the defendant from divulging the information obtained; but the plaintiff, conceiving himself not to be suf protected, brought the action for a further injunction to rest defendant from furnishing plans or in any way acting as arch adviser in the erection of jam works. The defence was that th ment was void under previous decisions as being an undue upon trade and contrary to the public interest.

THE NEW LABORATORY DIVIDER.

RIEF reference has already been made in these columns to this sampling and dividing appliance, which is the patent of Mr. T. kson, Mark Lane, E.C.

owever, further reference to this apparatus is warranted on account being suitable not only for the subdivision of samples obtained the Sampling Machine described in our article on "Mechanical pling" (No. 359, p. 226), but also as a sampler *per se* for small ls. The principle employed is very similar to that used in the

FIG. 1.

ler proper. The Divider, however, being arranged to deliver six samples, divides the bulk into six equal portions, which, if indilly too small to form a sample, can be mixed together to form two ree samples as circumstances may require. At the same time, it is desirable to reduce a fair sample to the size of a convenient atory sample, of say 50 or 25 grammes, the accurate work of the ler will prove very welcome.

e general aspect of the Divider with the arrangement of the ing cans is shown in Fig. 1, but a better idea of it can be gathered the sectional elevation represented by Fig. 2. The hopper and

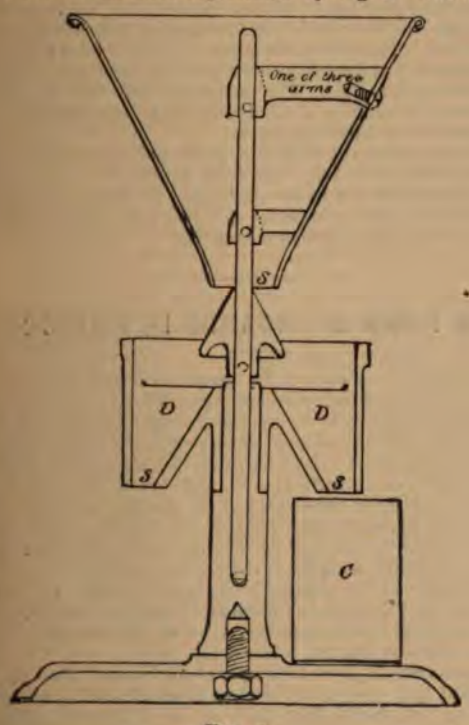

FIG. 2.

g cone are carried by the central spindle running in its bearing centre column which supports the whole. The hopper itself is by six arms, three at the top and three at the bottom, one of which is shown. The sample is thrown into the hopper, which gently revolved so that the sample is discharged on to the divider D in a hollow rotating cylinder. The Divider is circular, and is cut up into six equal segments by Λ-shaped partitions, which cut up the rotating tube of material, so to speak, into six separate and similar samples, which are discharged at *s.s.* into the receivers, of which C is one.

With a view to ascertaining more definitely the capacities of this machine as a sampler, the following experiments were made in the Manchester Technical Laboratory upon a Divider supplied by Messrs. James Woolley, Sons, and Co., of Manchester, who are the sole agents for the chemical and similar trades.

In the description of the Divider it is stated that all the samples are exactly similar. This necessitates their containing the same proportions of the various ingredients in the mixture worked upon, in addition to each sample being of the same weight.

In order to check this statement a mixture of sand, 24oz., and good-sized wheat, 12oz., was prepared. It will be noticed that more of the heavy and less of the lighter ingredient was taken, to magnify if possible the chance of a sample containing too high a proportion of sand and too little wheat. The mixture was tossed into the hopper without any previous mixing, and passed through the Divider.

From this we should have six samples, each weighing in all 6 ounces, made up of—

	ozs.
Sand	4
Wheat	2
Total	6

Each sample was weighed, and the sand separated from the wheat by a sieve; the sand and wheat thus separated were likewise weighed, with the result that both the *whole* of the six samples and the separated portions, turned the scale at their respective weights with most satisfactory accuracy.

Next the two following experiments were made:—

I. A mixture of coarse salt (known as chemical salt) and sand was made up without any previous preparation by way of drying, &c., the mixture having the composition:—

	Grammes.
Salt	12
Sand	288
Total	300

A small proportion of salt was purposely taken. Passed through the Divider this mixture gave six samples of 50 grammes, each containing two grammes of salt. Two out of the six were taken haphazard, treated with water, filtered, washed, and made up to 200 c.c. Of this volume, a tenth part was taken and titrated with silver nitrate as usual. A previous test on a weighed quantity of two grammes of the salt used, treated in the same way, showed that 33·8 c.c. of $AgNO_3$, N-10 should be taken by each sample when treated as just described. The sand had been previously washed free from chlorides. The following indicates the results obtained:—

	Number of c.c.'s N-10 $AgNO_3$ used.		
	Calculated.		Found.
Sample (a)	33·8	..	33·8
,, (b)	33·8	..	33·6

II. For the second experiment a mixture of precipitated chalk and white moist sugar was employed; the former on account of its excessive fineness of division and lightness, the latter on account of its tendency to form cakey masses with the chalk. The following was the composition of the mixture:—

	Grammes.
Precipitated $CaCO_3$	24
Moist sugar	276
Total	300

This gave six samples of 50 grammes, each containing four grammes of chalk. Two samples were again picked out at random, the sugar dissolved out with water, the chalk filtered off and washed. A separate test showed that the four grammes of chalk, *i.e.*, each sample, should consume 80 c.c. of N nitric acid. The following were the results obtained:—

	Number of c.c. N. HNO_3 used.		
	Calculated.		Found.
Sample (a)	80·0	..	80·0
,, (b)	80·0	..	79·7

From the foregoing it will be seen that this handy little machine is quite reliable, while the multiplicity of the instanees in which it can be used with advantage—particularly in the sampling of burnt ore, and fertilisers, &c.—render it unnecessary to urge its claim to a place both in analytical, and works' laboratories.

WOOD PULP *via* THE SHIP CANAL.—A large cargo of sulphite pulp arrived at the Salford docks on Tuesday last by the *St. Jernen* from Christiana.

Reports of Companies.

THE NEW BURNTISLAND OIL COMPANY.

THE original Burntisland Oil Company, once most prosperous and paying yearly 20 per cent. or more, had to go into liquidation two years ago. There being no bid for the mines and plant put up to auction, the creditors in desperation joined together and formed a new company of themselves, to avert total loss. They have been unable, however, to restart the stopped works, but have been obliged to maintain pumping operations to avoid the ruin of their mines by hopeless flooding.

The directors report that since the last general meeting of the company the mines have been kept free of water, and the operations recommended by the company's consulting mining engineer have been completed. These operations consisted in driving the mines forward into new ground, and in putting in new and improved pumps. In carrying out the work greater difficulties were met with than could have been foreseen, and in consequence more money has been required than was anticipated. In this way it has been necessary to procure a loan from the bank to carry on the operations, and at the date of closing the annual accounts there was a balance due to the bank of £5,371 0s. 10d. Mr. Rankine, the company's consulting mining engineer, reports that if working were resumed the mines would soon be in a position to turn out a sufficient quantity of shale at a very moderate cost. Meantime, pending the completion of arrangements, only pumping operations are being carried on. Seeing that the difficulties in the mines have been overcome, it is necessary to make arrangements for the future. The directors believe that the proper course is to raise a sufficient amount of capital and restart the works. For this purpose about £35,000 would be required, of which £15 000, it is believed, could be got on a bond forming a first charge over the property, provided the remaining £20,000 is subscribed by the shareholders and others. The directors believe that if these sums were raised and the work restarted, there would remain a considerable balance of revenue after paying the interest on the £35,000 proposed to be borrowed, as from figures supplied by the works' manager, it appears that if the works were carried on under the improved conditions brought about by the recent operations, a gross profit of about £10,000 per annum should be realised, even with prices of products at their present low level. Unless the necessary amount of money is subscribed, the directors fear that there will be no alternative but to expose the property for sale, and failing a sale being effected, to close the mines, though the latter course would involve an enormous sacrifice.

THE SAN SEBASTIAN NITRATE COMPANY, LIMITED.

At the fifth annual meeting of this Company, which has recently been held at Winchester House, London, the Chairman, Mr. A. R. Robertson, in moving the report of the directors, said that the position of nitrate was very satisfactory indeed. The deliveries for the first four months of the present year—January to April—have been larger than for the past ten years, except one year, 1891, when the prices ruled so low that they were not remunerative to any of the companies. Stocks and visible supply, on the other hand, are less now than they have been since 1889, so that on the whole you will see that the statistical position of nitrate can scarcely be more satisfactory. These results, as I have told you before, are mainly attributable to the combination that was carried on amongst all the producers of nitrate—both the coast producers and English companies—and whilst on this point I may add that I daresay you have heard that the combination has been broken. That, however, is scarcely the fact, for though the combination does not really exist to-day, all the machinery and the arrangements that we have had here and on the coast for carrying on the combination still exist, and should at any time prices fall to a rate that might not be remunerative to the producers, I have no hesitation in saying that the combination would be at once resumed; but at present it is not necessary. I would further say the combination has not been given up through any want of harmony either on the coast or here. The total profit is £14,562. Last year we had to carry forward a debit balance of £4,273., thus reducing our net profit for the year to £10,289. I need not say that such a heavy debit balance will not occur again, and next year we certainly shall not have a debit balance to carry forward to diminish our profit. On the assets side the property stands at £134,444., there having been some slight additions during the year. Tools, animals, carts, &c., stand at £1,538, against £2,855. That difference arises from our having closed one of our oficinas, Tegethoff, which we had done when I addressed you last year. We sold off some of the stock in the way of tools, &c, and the balance of that amount has gone to reduce our bank account. Stocks and stores are £15,403., against £24,398. last year. I may mention that a great proportion of that £15,000. is in iodine, which is a very remunerative bye-product, and more satisfactory to hold than stocks of nitrate. As regards sundry debtors, in London we had at the end of the year £290. owing to us by Messrs. Anthony Gibbs and Sons for iodine, and that has since been paid. In Chili the sundry debtors amount to £920. He had pleasure in announcing their intention to pay a dividend. The report was adopted

Parliamentary Jottings.

CORDITE.

IN the House of Commons last week, in answering Mr. Hanbury, Mr. Campbell-Bannerman said: Cordite has not been supplied to the Services from any other source than Waltham Abbey. No private manufacturers are under contract to supply it, but offers are about to be invited. It is expected that it will be two months before Waltham Abbey is able to resume full work, but it will probably be possible to make temporary arrangements for the manufacture of cordite much sooner.

THE ANALYSIS OF FEEDING STUFFS.

In the same House, on Friday, 25th ult, Mr. A. Cross asked the President of the Board of Agriculture whether under the Fertilisers and Feeding Stuffs Act, 1893, every buyer of any parcel of fertilisers or feeding stuffs was entitled to have the parcel samp'ed and analysed by the public local authority, under the provisions of that Act, and that quite irrespective of whether he was a farmer, a dealer, or a manufacturer, and at the rate of fees fixed under the Act?

Mr. H. Gardner said he had no authority to decide any question which might arise as to the interpretation of the Act in question, but he was advised that every *bonâ-fide* buyer of feeding stuffs within the meaning of the Act was entitled on payment of the fee sanctioned by the local authority to have an analysis made.

THE FLASH POINT OF BURNING OILS

Mr. A. Cross asked the President of the Board of Trade whether the attention of his department had been directed to the serious dangers to which the public were exposed from the public sale and use of burning oils of low flash point sanctioned by the legal flash limit of 73 Fahr., especially in view of the experience of temperature during last summer?

Mr. Asquith said the question of the flash point of mineral oils was an extremely disputable one. While representation had been made in favour of raising the flash point, other authorities were strongly opposed to any alteration. This particular point—73°—had been adopted after careful experiment and inquiry as the equivalent close test. The former flash point was an open test. The matter was one that would occupy the attention of a committee of inqury that might hereafter be appointed on the subject of petroleum legislation.

Mr. Paul asked when the right hon. gentleman was going to appoint a committee to inquire into the Petroleum Acts?

Mr. Asquith replied that he should be glad to do so, but there was extreme difficulty in getting together sufficient hon. members who were interested in the matter to form a committee.

NEW ROSIN STANDARDS IN AMERICA.

THE Inspection Committee of the Savannah Board of Trade held a meeting recently to select and approve the types of samples to be furnished to the inspectors to be used in grading rosins on that market.

The Board has recently adopted several amendments to the rules regarding rosin inspection. It is required that all samples shall be at least seven-eighths of an inch square, and taken from at least six inches from the surface of the rosin, and the grading must be made to conform to the standard approved by the Board. The standard samples are marked "Approved by the Savannah Board of Trade," and are kept constantly on hand in the exchange room.

The samples are to be renewed every two months, or oftener if necessary, and every inspector of naval stores will be furnished by the Inspection Committee with approved type of the samples, at least once in two months or oftener, if necessary.

The inspectors are required to sample at the bottom, head or side of the barrel, of at least 5 per cent. of every mark of rosin grading K, or better quality, and should false packing be discovered, they must examine the entire lot of false packing, and the expense of this examination must be paid by the seller of the rosin. Every mixed packed barrel will be marked with both highest and lowest grade, and both samples exhibited. This rosin will then be sold on its merits without reference to either grade, but if there is no special agreement made the settlement will be made at the price of the lowest grade.

XPORTS OF ALKALI AND BLEACH.

owing figures, which are taken from the official foreign and ial statistics of the United Kingdom, give the amount and ali and bleaching materials shipped to the undermentioned luring the month of April, 1894, as compared with the h of 1893 :—

ALKALI.

Port.	1893.	1894.	1893.	1894.
	Cwts.	Cwts.	£	£
.....	15,418	24,167	7,004	9,444
l Norway	12,058	9,198	2,350	1,823
.....	14,486	14,771	5,552	5,101
.....	5,909	8,678	1,953	1,777
.....	5,510	4,005	2,334	1,555
Canaries	20,819	17,358	9,398	7,436
.....	8,075	17,787	3,214	7,291
es	442,020	235,686	129,302	56,695
.....	9,770	12,737	3,713	4,823
th America ..	21,682	32,904	7,509	9,122
tries	91,432	88,699	30,116	27,080
.....	647,179	465,990	202,445	132,147,

BLEACHING POWDER, ETC.

Port.	1893.	1894.	1893.	1894.
	Cwts.	Cwts.	£	£
tes	100,133	71,155	42,628	28,685
tries	43,801	35,246	17,111	13,424
.....	143,934	106,401	59,739	42,109

ONDON CHAMBER OF COMMERCE.

CHEMICAL SECTION.

DING to the official account of the annual report of this on given in the "Chamber of Commerce Journal," several f this section and its committees were held during the year. of these Mr. Fenwick's Merchandise Marks Act Amend- vas considered, and it was agreed that the council of the hould be asked to oppose the provisions of the Bill on the t to require the name of the manufacturer and the place of e to be stamped on all articles would be harassing to trade nerally. The section had also under its consideration the ffect upon the trade of the deliberations of the Departmental appointed by the Home Secretary to inquire into unhealthy ous employments, with a view to introducing legislation for sing of the risks attendant upon dangerous avocations. A mittee was appointed to co-operate with the Departmental in advising in the framing of suitable rules and regulations. espondence extending over many months was maintained ome Office upon this subject. As a result of the repre- of the Chamber on behalf of the industry, rules were ulti- ed which were regarded as entirely satisfactory to the trade. ion discussed the desirability of its co-operating with the r Chamber in bringing a Bill before Parliament to reform the tent Laws so as to make them, so far as related to prelimi- inations, analogous to the law and practice at present in e United States of America. A voluminous correspondence taken by the Chamber with the British Consul and legal ew York upon this subject, with the result that the American s shown to be not without drawbacks of its own. Dr. Food and Drugs Act Amendment Bill was discussed, the being that the matters treated of therein could only be dealt iately by means of a Parliamentary inquiry into the operations d and Drugs Act The Employers' Liability Bill of the nt received attention at the hands of the Section, with the it was resolved to petition Parliament that the Bill should be o that a County Court judge could determine any case with- on the demand of either party, but that in the event of a nore than £50. the venue might be removed at the request of ant to the High Court. The Section was also asked to con- roposal of the Debtors' Act Commission of the House of ich would have the effect of repealing the power itting small debtors to prison, but it was agreed ion should be taken in this connection. The Chamber, on the Section, made representations to the Board of Inland hat facilities should be granted for the exportation of tinctures as well as by measure, and this concession was ultimately granted. The Section resolved to adopt the recommendation of its Citric and Tartaric Acid Special Committee as to the principal tests which would be best calculated to fulfil the requirements of the British Pharmacopœia.

Among other subjects dealt with was the restoration to employers under the Employers' Liability Bill of the power to contract out of the Act.

TIPS FOR TRADERS.

PORCELAIN manufacturers at Limoges are suffering from the depressed condition of this industry; only 139 furnaces are working now, as against 270 last year.

MANGANESE mines are to be developed in the Caucusus, the task having been undertaken by Messrs. G. Pintcher, of Hamburg. It is estimated that the annual output will amount to fully 4,000,000 poods (pood = 36lbs. avoir.).

TALC, KAOLIN, and GYPSUM are found in considerable quantities, as natural products, in Russia.

MATCHES exported from Japan show, according to the returns for 1893, a distinct increase as compared with the previous year.

COAL and CAMPHOR also show similar results.

ANILINE DYES imported into Japan show for the same period a slight falling off.

TARIFF CHANGES.

There are from time to time many alterations in the Customs' regulations abroad, which it is as well for those trading in chemicals, oils, paints, and raw materials to be acquainted with. The following are some of the most recent changes of interest to the foregoing :—

BURNT OCHRE imported into the United States is dutiable, under paragraph 54, as an ochre.

RAPE SEED OIL is likewise subject to a duty of 10 cents. per gallon.

GINGER-GRASS OIL, also known as Turkish oil of geranium and rose oil, chiefly used in perfumery and the preparation of common attar roses, is dutiable at 25 per cent., *ad valorem*, under paragraph 76 of the new U.S.A. Tariff.

POSTAL CHANGES.

The postage on parcels for British Central Africa has been reduced, and is now as follows :—For the first pound, 1s. 6d.; for each additional pound, or fraction of a pound, 1s. 6d. The limit of weight is 7 pounds.

Money Orders may be obtained at any Money Order Office in the United Kingdom drawn on certain offices in the Republic of Uruguay, South America.

The Orders should not be forwarded to the payees, but should be retained by the remitters as receipts.

RIVER POLLUTION PROSECUTIONS.—The applications of the Mersey and Irwell Joint Committee for permission to take proceedings for pollution of a tributary of the Irwell against Messrs. Wilkinson Brothers, Lomax Bank Paper Mills, Little Lever, and Messrs. N. Ramsden and Co., of Ainsworth Mills, Breightmet, and Harwood Vale, Bolton, were heard reeently at the Bolton Town Hall by Mr. W. E. Bird, an inspector of the Local Government Board.—Mr. A. H. Gillespie, one of the Joint Committee's sub-inspectors, said the works put down by Messrs. Wilkinson had little appreciable effect on the character of the effluent.—Mr. Wilkinson said the firm had done their best to get the water clear, and he thought before long that they would be in a condition to satisfy the inspectors of the Committee. They had already spent £200. in the attempt at improvement.—In the case of Messrs. Ramsden (for whom Mr. Twisse appeared). Mr. Tatton said the tanks in use for the treatment of the waste water were not at all efficient. As far as he knew, no precipitant was being used.—Mr. Twisse said it had always been the intention of the firm to comply with the requirements of the Joint Committee.—Mr. Bird further heard a second case against Messrs. Ramsden. He will report in due course to the Local Government Board.—Mr. Justice Kekewich, on the application of counsel for Messrs. Davies and Eckersley, Limited, has also restrained Messrs. W. Brown and Son, who did not appear, from discharging water from their coal mines into the river Douglas, near Preston, and so rendering the water hitherto used by the plaintiffs unfit for bleaching.

THE INSTITUTE OF CHEMISTRY.

THE annual dinner of the Institute of Chemistry of Great Britain and Ireland was held at St. James's Hall, on Friday last week. Dr. W. J. Russell, F.R.S. (President of the Institute), was in the chair, and amongst those present were Lord Kelvin (President of the Royal Society), Sir J. Evans, Mr. A. Giles (President of the Institution of Civil Engineers), Professor J. Norman Lockyer, Professor H. E. Armstrong (President of the Chemical Society), Sir H. Trueman Wood (secretary of the Society of Arts, Mr. E. C. C. Stanford (President of the Society of Chemical Industry), Mr. E. Frankland, Professor Carrington Bolton, Major-General A de Courcy Scott, Dr. Thorne Thorne, Mr. H. Markby, Mr. W. Crookes, Mr. J. Bell, Mr. Ludwig Mond, Dr. W. A. Tilden, Dr. T. Stevenson, Mr. J. H. Gladstone, Professor Bernard Dyer, Mr. E Rider Cook, Mr. Boverton Redwood, Mr. J. A Voelcker, Mr. J. Muter. Mr. W. Gowland, Mr. D. Howard, Mr. T. Tyrer, and Mr. J. Millar Thomson (Hon. Secretary of the Institute). Lord Kelvin, in response to the toast of "The Learned Societies," said that the Royal Society had done its duty well and had produced great results in the advancement of knowledge during the last 230 years. Many other societies which had more recently sprung up were integral parts of the Royal Society. There must be a comprehensive science which joined the investigations of all the different branches of scientific research. The Royal Society had done a good work in cataloguing and indexing, but he hoped that they would not confine their labour to that one branch. The funds of the Royal Society were hardly able to cope with the great mass of valuable material presented to it for publication, and therefore he rejoiced that the co-operative societies were able to print so large an amount of scientific matter. Sir J. Evans (treasurer of the Royal Society) then proposed the toast of the evening, "The President and Institute of Chemistry" He said that this institute sought in the first place to insure that all those who practised as analytical or consulting chemists should be properly educated and should have the proper amount of training. He spoke with gratification of the fact that at the present time the institute had 800 members and upwards of 200 students. The President in reply said that they were a very young institute and there were a few years yet before they would come of age. They had of late passed through a critical time of their growth. The duties of the institute if it was to flourish must always be of a very responsible and delicate nature. Chemical science of late years had made enormous advances, having within recent times become a useful art in addition to being a pure science. The whole function passed off most successfully.

THE U.S.A. NEW TARIFF BILL.

THE following is an abstract of an unofficial report of the tariff changes relating to chemicals, colours and dyes, etc, which are being discussed in the U.S A. Senate, and which it is proposed to bring into force:—

Boracic acid is changed from 20 per cent. *ad valorem* to 2 cents a pound.

Chromic acid from 10 per cent. to 4 cents a pound.

Citric acid, increased from 20 per cent. to 25 per cent.

Tannic acid, or tannin, increased to 75 cents in place of 60 cents.

Tartaric acid, increased from 10 to 20 per cent., the rate in the House bill.

A new provision is added after paragraph 8, "alumina," etc., to read as follows: "*Ammonia*, carbonate of, 20 per cent.; muriate of, or sal ammoniac. 10 per cent; *sulphate* of, 20 per cent."

"Refined borax, 20 per cent.," is changed to read: "Borax, crude or borate of soda, or borate of lime, 1 cent a pound; refined borax, 2 cents a pound." A new paragraph is also inserted, placing a duty of 10 per cent. on camphor, refined. Also a new paragraph to read: "Cobalt, oxide of, 20 per cent. *ad valorem*." "Sulphate of magnesium or Epsom salts, 1-5 of a cent a pound.

Flaxseed or linseed and poppyseed oil, raw, boiled or oxidized, increased from 15 cents a gallon to 20 cents; House bill, 15 cents. Olive oil, fit for salad purposes, changed from 25 per cent. to 35 cents a gallon.

Baryta, sulphate of, or barytes, manufactured, changed from 25 per cent. to $3 per ton, as in the House bill.

Chrome yellow, chrome green and all other chromium colours, in which lead and bichromate of potash or soda are component parts, dry or ground in or mixed with oil, or in pulp or mixed with water, are increased from 2¾ cents a pound on the material contained therein when dry, to 3 cents a pound; House bill, 2¾ cents.

Ochre and ochrey earths, sienna and sienna earths, umber and umber earths, ground in oil, changed from 25 per cent. *ad valorem* to 1¼ cents a pound, as in House provision.

Ultramarine blue, whether dry, in pulp or mixed with water, and wash blue, containing ultramarine, changed from 20 per cent *ad valorem* to 3 cents a pound; House bill, 20 per cent.

Zinc oxide, and white zinc paint or pigment, dry or ground in oil, changed from 25 per cent *ad valorem* to 1 cent a pound; House bill, 20 per cent.

Nitrate of potash, or saltpetre, refined, changed from 10 per cent. to ½ cent a pound, to correspond with House bill.

Bicarbonate of Soda changed from 30 per cent. *ad valorem* to ½ cent a pound, as in House bill.

Caustic Soda, changed from 25 per cent. *ad valorem* to ¾ cent a pound, as in House bill.

Bichromate and chromate, changed from 25 per cent *ad valorem* to 2 cents a pound; House bill 20 per cent.

Sal soda or *soda crystals* changed from 20 per cent. to ⅛ of one cent a pound, as in House bill; *soda ash* changed from 20 per cent. to ¼ of a cent, as in House Bill.

Silicate of Soda or other alkaline silicate has been changed from 20 per cent. to the ¼ cent a pound of the House bill.

Refined sulphur is made 20 per cent, and stricken from the free list.

Tartrate of soda and potassa, or Rochelle salts, changed from 10 per cent. to 2 cents a pound; House bill 10 per cent.

All coal-tar colours or dyes, by whatever name known and not specially provided for in this Act, changed from 20 to 25 per cent.; House bill 20 per cent.

In paragraph 36, reading as follows: "Blanc fixe, or satin white, or artificial sulphate of barytes, 25 per cent. *ad valorem*," after the word "barytes" insert "and artificial sulphite of lime."

Whiting and Paris white, dry, changed to ¼ of a cent a pound; ground in oil or putty, changed from 35 per cent. to ½ cent a pound. Orange mineral and red lead, changed to 1¼ cents a pound.

Phosphorus changed from 25 per cent. (House bill) to 15 cents a pound. Prussiate of potash, red or yellow, increased from 20 per cent. (House bill) to 25 per cent.

Starch, including all preparations, from whatever substance produced, commonly used as starch, changed from 30 per cent. *ad valorem* to 2 cents a pound.

Dextrine, burnt starch, gum substitute, or British gum, changed from 30 per cent. *ad valorem* to 1½ cents a pound.

FREE LIST.

Crude camphor is added to the free list.

The following have been stricken from the free list:—

Borax, crude, or borate of soda, or borate of lime.

Ammonia, carbonate of, muriate of, or salammoniac and sulphate of; oxide of cobalt; refined sulphur.

To the paragraph admitting *sulphuric acid* free has been added the following proviso: Provided, that upon sulphuric acid imported from any country which imposes a duty upon sulphuric acid exported from the United States there shall be levied, paid and collected the rate of duty existing prior to the passage of this Act.

To the paragraph placing *petroleum*, crude or refined, on the free list there is added the following proviso: That if petroleum, crude or refined, is imported from any country which imposes a duty on the same exported from the United States, then there shall be levied, paid and collected upon such petroleum, crude or refined, the rate of duty existing prior to this Act.

THE RIBBLE JOINT COMMITTEE.—At the last monthly meeting of this Committee the position of various local authorities was considered, and in the majority of cases further adjournment granted. It was decided to write to Lord Derby with reference to a complaint by the Parbold Parochial Committee as to a deposit of chemical matter from which the drain ran into the River Douglas. The Local Government Board had granted permission for proceedings against Messrs. Peebles and Co. with reference to the pollution from the Whiteash Paper Mill, but not at their Rishton mill. It was resolved to take proceedings under the power thus obtained. The Clerk was requested to prepare a report as to the position of the Committee with regard to the case at Rishton. The case of the Preston Rural Sanitary Authority was again considered. No further communication was received from the Authority as to their action, though Mr. Naylor, the Chief Inspector, stated that the Clerk to the Authority had informed him that a sub-committee was to recommend the Authority to purchase some land at Ribchester, and it was decided to take proceedings against them.—The Inspector presented a special report upon the position of the bleachers, calico printers, and dyers in the Ribble watershed, which the Chairman said was very satisfactory.—It was resolved that proceedings be taken against Messrs. Potter, of Darwen, who wrote that their plans had not been accepted by the Local Government Board, and an application by the proprietors of the Samlesbury Paper Mill, which was recently destroyed by fire, for an extension of time in which to lay down settling tanks, was granted.

)CIETY OF CHEMICAL INDUSTRY.

NEWCASTLE SECTION.

THE PATENT LAW QUESTION.

meeting of the present session of this section was held in al Department of the Durham College of Science on Thurs- eek. Mr. Alfred Allhusen, chairman of the section, pre- there was a fairly good attendance.

utes of the last meeting having been read and confirmed, of officers for session 1894-5 was proceeded with. Mr. G. was elected chairman ; Mr. Alfred Allhusen, vice-chairman ; committee, Mr. John Pattinson's name was substituted in t of the newly-elected chairman.

by Mr. J R Breckon, on "The Patent Laws," was read tional Secretary (Dr. Dunn). In this paper the author the amendments made to the English patent laws in 1883, ed that a distinction should be drawn in the granting of ween an inventor and improver, and that the status of the ce Department of the Board of Trade should be raised, so horough examination of specifications for patents should be stead of a Royal Commission being appointed, the author Departmental Committee might investigate the working of Patent Laws with a view to their improvement. In the which followed the reading of this paper, Messrs. W. A Rowell, J. Morrison, the Chairman, and Prof. Bedson Mr. Rowell had attended a committee meeting of the members the various sections of the Society of Chemical Industry in d gave an interesting account of the various views expressed s at that meeting. Mr. Allhusen drew attention to a case in the law courts, and recently confirmed by the House of ch decided that a manufacturer could *try* the working of a out paying royalty *so long as he did not profit thereby.* Mr. plied to the various questions and criticisms, and a hearty vote or his paper was carried with acclamation.

paper was by Prof. P. Philips Bedson, D.Sc , on "The Action of Lead Compounds." With a view to finding how nto the system in cases of lead poisoning, carbonate and lead had each been subjected in small bags to the action uice obtained from a dog. The hydrochloric acid in the ce was found to be the medium by which the lead was nd though the carbonate was more soluble than the sulphate of 5 to 1, yet the latter was appreciably acted on. A short on the subject of lead poisoning took place, and a vote of accorded to the professor for his paper.

Grieg Smith, of the Durham College of Science, then read a iling some results of the microscopic examination of fat the milk of cows in various parts of Northumberland.

by Dr W. Cossar McKenzie on "Nitrate of Soda in Egypt" as read, the evening being then rather far spent, and the reading only a short abstract of Dr. McKenzie's paper.

neeting the members were shown the spacious room in the of the College of Science, which is to be The Library, and he books belonging to the Newcastle section of the Society t for the joint use of members and students.

coffee were, as usual, served at the School of Cookery after g.

NOTTINGHAM SECTION.

ing of this section was held at the University College, m, on Wednesday, May 23rd. The chairman (Mr. J. M. presided, and a paper by Messrs. Schweitzer and Lungwitz, ork, on "Commercial Analysis of Lard" was read by the lary (Mr. Lloyd Whiteley), the paper having been forwarded Mr. Watson Smith, London. The auditors speak of the ress made of late in compounding lards, and state that the adulterants are cotton seed oil, cotton oil-stearine, lard- nd oleo-stearine. They consider that the following six tests, ther and in order, are the most valuable :—

test with phospho-molybdic acid (Sonnenschein's reagent).
lliau's nitrate of silver test.
ibl's iodine absorption.
umenè's sulphuric acid test.
e crystallisation point.
ie microscopical appearance.

e given for carrying out the phospho-molybdic test, and stress the necessity of acid of constant strength in Maumenè's re- d it is proposed to shorten the time required for the iodine by means of heating.

per was criticised by Mr. Rimmington, who showed that nce could be placed upon the different crystalline appear- Ir. Allen objected on principle to any colour reaction such as those with phospho-molybdic acid and nitrate of silver, because they depend upon unknown factors. He also thought the proposed change in Hübl's method too arbitrary. Professor Clowes also gave an instance to show how utterly unsatisfactory Maumenè's test might be.

DECISIONS OF MOMENT TO BOILER OWNERS.

A DECISION of some moment to owners of steam boilers was given last week by the Commissioners (Mr. Howard Smith and Mr. Alexander Gray) in connection with an inquiry which they held in the Huddersfield Town Hall, touching the explosion of a boiler on the 28th April last at the Kilner Bank Colliery, near Huddersfield, belonging to Messrs. Read, Holliday, and Sons, Limited (*C. T. J.* 363, p. 291). Mr. Gough conducted the case for the Board of Trade, and Mr. Mills appeared for the colliery owners and their servants. It was proved in evidence that the boiler forming the subject of the investigation was over 20 years old, and was purchased second-hand in February last from Mr. Thomas Latham, boiler maker, Huddersfield, for £15. Mr. Latham told the purchasers that he had strengthened the boiler whilst it had been in his possession, that he had also examined it and subjected it to a hydraulic pressure of 130 lb. to the square inch, and that it could be worked at a pressure of 80 lb. Messrs. Read, Holliday, and Sons set the boiler to work, loading the safety valve at 60lb , but they averred that it was never worked above a pressure of 50lb. About 15 minutes before one o'clock on the morning of the 28th ult. the boiler exploded, the neck piece of the firebox being the part that first gave way. The boiler was situated on the side of a hill, in close proximity to the pit shaft, at a height of 40 ft. from the level of the ground. It was lifted from its seat and projected by the force of the explosion to a distance of about 50 yards into the River Colne, that flows in the vicinity of the colliery. The fireman was severely scalded, but no other person was injured. On examination afterwards it was found that the plates of the firebox had been wasted from their original thickness of three-eighths of an inch to one-eighth in one part. The chief question for the Court was whether or not Messrs. Read, Holliday, and Sons were justified in trusting to the assurance of Mr. Latham that the boiler was in a sound condition. Mr. Mills contended that they were, and that it would be impossible for business to be conducted if the word of a vendor must not be trusted. The Commissioners found Mr. Latham to blame for the explosion, and ordered him—he being a poor man who pleaded that he was without means—to pay the sum of £10. to the solicitor to the Board of Trade towards the costs of the inquiry. In their view the examination he made was a perfunctory one. With regard to Mr. Holliday, the managing director of the above-named firm, they held that he was not to blame personally. At the same time the Court found that the company were to blame for the negligence of their engine-wright—to quote the wording of the special rules of the colliery—Mr. Turner, in not himself examining the boiler and ascertaining its condition before setting it to work with the safety valve loaded at 60 lb. Mr. Turner admitted he ought not to have entirely trusted to the representations of Mr. Latham. The Commissioners held that whatever justification there might be for trusting to the representations of a seller in the case of a new boiler, there was not any in the present instance, the boiler being old and second-hand. Under these circumstances they found the company to blame for the negligence of their servant, and ordered them to pay £30. towards the costs of the investigation. It transpired in the course of the inquiry that the boiler was used for about 20 years by a joiner and builder without being once inspected by a competent engineer, the user remarking that so long as it did not leak he saw no reason for making a thorough examination. This idea concerning boilers the Commissioners characterised as a popular delusion. Reference was also made to what in the opinion of the Commissioners was a defect in the colliery rules—rules common to the district and approved by the Home Secretary. These rules provide for the cleaning and repair of boilers and the reporting of any defect, but do not specifically provide that it is the duty of any person to make a special examination. The Court expressed the opinion that the duty of properly examining boilers should be cast on some person, and that that person should be named, and that it should be the duty of the manager to see that such a person is appointed, and that his duties are properly carried out.

To Prepare Axle Grease.—A satisfactory and saleable lubricant for axles can be prepared in the following manner :—Boil 150lbs. wool fat for a short time with 30lbs. 20° soda lye, and add to this mass 150lbs. blue resin oil and 150lbs. paraffin oil. Then sift into the mass about 50lbs. of lime slaked to a powder and effect a complete combination by thorough crutching. The next day heat the mass again add o the same, after long intermissions and repeated stirring about 50lbs. paraffin oil, until the axle grease shows the right consistency.

ANSWERS TO CORRESPONDENTS.

J.W.—Thanks for communication.

C. and Co.—The matter has been duly attended to.

J.W. (Yorks.).—We are always glad to have such. We hope you will bear us in mind in future.

L.H.—They have been sent.

T. and A. F. (Leipzig).—It was sent as a matter of course. We hope the others will arrive alright.

A.M. (Lille).—We will let you know if we hear anything further.

Le Nord.—Why has it been stopped? One good turn deserves another.

Trade Notes.

Foreign Chemical Dividends.—We learn that the *Chemische Fabrik Griesheim* has declared a dividend of 16 per cent. for the year, being the same as in 1892. The *Chemische Fabriks-Actiengesellschaft*, Hamburg, has made a profit for the year of 338,062M., and declares a dividend of 4 per cent, thus absorbing 60,000M. The profits for 1892 amounted to 434,142M.

Society of Chemical Industry (*London Section*).—The next meeting of this Society will be held on Monday, June 4th, at Burlington House, when papers will be read by Mr. W. G. Macmillan on (*a*) "Experiments on the Strength of Leather, and (*b*) "The Colour of Brass," and by Dr. Dvorkovitch on the "Distillation of Peat."

Society of Chemical Industry (*Manchester Section.*)—As we go to Press the last meeting of this section is being held at the Victoria Hotel. The chief feature of the meeting will be the presentation of a massive timepiece of the Louis Seize style, with vases *en suite*, and a pair of brass pedestal oil lamps to the Hon. Secretary (Mr. J. Carter Bell). On the *agenda* there are several papers, and an adjourned discussion on Mr. W. Naylor's paper on Sewage Processes. A fuller illustrated account of the proceedings will appear in our next issue.

Personal.—We learn that the South Kensington Chair of Chemistry, which, it will be remembered, was vacated by Prof. T. E. Thorpe, on his appointment as head of the Somerset House Laboratories, is to be filled in October next by Dr. William Augustus Tilden, Professor of Chemistry at the Mason College, Birmingham, and late President of the Institute of Chemistry. Government students will now have to study the idiosyncracies of a new Examiner. Conjecture is made as to whether Dr. W. W. J. Nicol, who has done such good work for the College, will take Dr. Tilden's place at Birmingham.

Obituary.—We regret to announce the death of Mr. Robert Bell, which occurred at his residence, Clifton Hall, Midlothian, early on Wednesday morning last, from an acute attack of pleurisy. Deceased was the first to manufacture oil from shale by distillation in Scotland, and was the originator of the Broxburn Oil Works, which is the largest oil works in Scotland. The business becoming so great, he formed it into what is now known as the Broxburn Oil Company, of which he was chairman. He was also chairman of other prominent oil and ironstone companies, and owner of extensive stone quarries.

Fire at a Chemical Works.—A fire occurred this week at the chemical works of Messrs. Mellor and Pickles, of Edge-lane, Droylsden. Information of the outbreak was sent to the Manchester fire station in Jackson's-row. A doubt existed as to whether the fire was or was not within the limits prescribed for the attendance of the brigade, but to be on the safe side a detachment of the brigade was despatched. The Ashton-under-Lyne fire brigade was afterwards summoned, and they succeeded in extinguishing the flames, but not before something like half of the brick and timber shed in which the fire occurred had been destroyed.

Hours of Labour in the Mining and Chemical Industries.—Speaking on the demands of the miners for an eight hours day recently, Mr. Brunner, M.P., urged the members of the Northwich Society of Salt Workers and Miners and Alkali Workers to support their union. He said that he should not vote for the Miners' Eight Hours Bill, because he believed that if Parliament was to interfere with the labour of grown men and decide the maximum hours to be worked, Parliament ought to begin, not with the men who worked five days a week, but with those who worked seven. To him it seemed selfish that the colliers who worked five days a week should use their very great and powerful organisations to limit their hours of labour to eight hours per day or 40 per week, and to have no concern for those who were bound to labour 84 hours weekly. Much had been said at the International Congress in Berlin that week about the necessity for limiting the output of coal, but the fact seemed to be lost sight of that such a limitation meant a limitation of the output of almost everything made in England. If the Miners' Federation had their way and limited the output in order to raise prices, and thereby, as they hoped, their wages, they were extremely likely to limit the output of coal to such an extent that it would be practically impossible to get slack to carry on the great manufactories of the country. He claimed that perfectly innocent men employed in Northwich, Widnes, St. Helens, and in all the great iron producing counties, should not be punished b Miners' Federation; and for this reason he meant to resist their to the utmost. In a conversation with Mr. Sam Woods, for wh had a great admiration, he (Mr. Brunner) summed up the act the Federation in this jocular fashion: "What you colliers want have as short a week as you like, as short a day as you like your wages as high as you like, and never to allow a man to p in one day more than can be sold in the next."

Market Reports.

TAR AND AMMONIA PRODUCTS.

Benzols are unaltered in price and position. There are prosp improvement, however, in crude carbolic, but the price as yet r at 1s. 7d. Crystals, 40%, are steady at 6¼d. Crude naphtha i and solvent, 90%, dearer at 1s. 2½d. Pitch is now steady a f.o.b. East Coast. Anthracene remains in *statu quo ante*.

Sulphate of ammonia is very firm in price and position. attempt to "bear" the market early in the week has resul nothing, and all the sulphate to be had is being eagerly b Beckton value is £14., London outside makes are selling at £ £14. 1s. 3d, Liverpool and Hull £14., Leith £14. 2s. 6d. F business for summer delivery is being hampered by the small q of sulphate offering.

LIVERPOOL OIL AND COLOUR MARKET

Wednesd

OILS.—Palm oil is quiet with very little business doing in L at £21. Sales in other qualities are restricted. There is not m record in regard to olive, which is quiet at £29. to £36. p according to quality. The firmness of linseed is well maintain the week has brought a further advance of 3d. Liverpool ma export casks now being quoted at 22s. 6d. to 23s. per cwt. Cott has recovered the decline, and rules firm at 21s. 3d. to 21s. 9d. p for Liverpool refined. Castor oil is steady; the tone of good s Calcutta is firmer on spot, though the price is still 2⅝d., first sure French is practically unaltered at 2⅝d. per lb., and a f easier for near at hand parcels. Tallow keeps firm, with a m inquiry at recent prices. In resin there is a fairly good business in common at 3s. 9d. per cwt., and other grades at propor figures. Spirits of turpentine have been firm at 23s. 9d. to 2 cwt., the market closing to-day with a slightly easier ten Petroleum is stationary at 4¼d. to 5½d. for American, and 3 3¾d. per gallon for Russian refined.

COLOURS are steady without alteration in Ochres: Oxfordshire, common, £10., medium, £12., best, Derbyshire, common, 40s.; medium, 50s., best, 60s.; Welsh, 70s., seconds, 50s., and common, 18s.; Irish, Devonshire, 4 45s.; French, J.C., 55s. to 60s.; M.C., 65s. to 67s. 6d. U Turkish quiet; Devonshire, 50s. to 55s. White lead, and of zinc unchanged. Venetian red, £6. 10s. to £10. C Prepared oxide, 9s. 9d.; black, 9s.; blue, 6s. Zaffres: N 3s. 6d.; No. 2, 2s. 6d. Oxide of iron: Common, £6.; me £10.; finest, £20. Zinc oxide, £23. to £25.

THE METAL MARKET.

LONDON, Wednesday.—Pig iron, dull: Scotch warrant at 41s. 9½d., Middlesbrough 35s. 7d. cash, and hematite 43s. Copper, dull: Chili bars, G.O.B.'s and G.M.B.'s, closed at to £39. 5s. cash, and £39. 7s. 6d. to £39. 12s. 6d. three months. active: Straits closed at £71. 15s. to £72. 5s. cash, and £7 to £72. 15s. three months; Australian, £72. 5s.; English i £75. 10s. Lead, quiet: Spanish, £9. 2s. 6d. to £9. 3s. 9d.; En £9. 5s. to £9. 7s. 6d. Silesian Spelter, ordinary, £15. 15s. N 1s. 8½d. Antimony, flat: £33. 10s. Quicksilver: First hands, second hands, £5. 19s. *Copper shares*, steady: Cape, 1 $\frac{5}{16}$ to Copiapo, 1 $\frac{3}{16}$ to 1 $\frac{11}{16}$; Libiola, 2⅞ to 3⅛; Mason and Barry, 2⅝; Rio Tinto, 14 to 14⅛; Tharsis, 4½ to 4⅝.

MISCELLANEOUS CHEMICAL MARKET.

Business in the alkali trade is, if anything, more brisk. bleaching powder there is a strong demand for export, and pric very firm at £8. to £8. 5s. per ton hardwoods, f.o.b., and £7 f.o.r. makers' works, for softwoods. Caustic soda, with the s lower prices ruling, has been selling more freely for export. current, subject to usual variations, are as follows:—f.o.b. Tyne, £10. 15s.; f.o.b. Liverpool, 74%, £9. 17s. 6d.; 70%, £8. 17 60%, £7. 17s. 6d., cream, 60%, £7. 15s. per ton, 10-ton lo

s. Chlorate of potash 7d. to 7¼d. per lb. Soda ash, Leblanc 1d. per degree. Ammonia soda, 58%, £3. 15s. per ton, in .o.b., and £3. 2s. 6d. to £3. 5s. in bags, makers' works. Soda quiet: bags, £2. 3s. to £2. 5s. per ton, makers' works. without improvement at £3. 17s. 6d., in bulk. Trade in of copper is still brisk at £15. 10s. per ton, f.o.b. White ed arsenic in good request at £14. to £14. 5s nett, f.o.r. . Nitrate of soda 9s. 7½d. per cwt., with an easier tendency. s of lime firmer, both in brown and grey quality, and more for forward delivery. Other acetates and acetic acid are variation in price, but the demand continues quiet in this line. phate and persulphate are in poor request for present uses, but e inquired for in view of larger possible requirements ahead. w prussiate of potash the position has changed. The for cyanide making has taken up all the stock in makers' and the prices are firm at 10d. to 10½d. per lb. for quantity. caustic and carbonate, are still in good request, and prices are Carbolic acid crystals have a firmer tone, but trade in these and arbolic acids is below expectation for the season of the year. ieral demand for sundry chemicals is slightly better, but on the reports do not indicate any material improvement in trade.

REPORT ON MANURE MATERIAL.

he time of year a fair amount of business has been doing on id considerable transactions have taken place for forward . The position of mineral phosphates is unchanged. The 75/80% Florida rock, c.i.f. Continental ports, is 8d. per unit, action less would have to be taken to induce business to good Kingdom ports. South Carolina River rock is quoted 7d per t that is probably a shade above its actual value, in quantity shipment. Peace River rock is worth about 7d. per unit. ntal phosphates are unchanged. River Plate bones are rather ellers failing to get on at prices recently paid, and £4. 13s. 9d. iearest value of handy cargoes to direct ports, summer-autumn it. After large sales of Bombay bone meal, on spot and near , at £4. 12s. 6d. down to £4. 10s. per ton, the market is at firmer, and at the close £4. 12s. 6d. is required for June-shipment. Business has been done in crushed Kurrachee bones, shipment, at £4. 12s. 6d., and the price would still be taken. ranean bones have been coming forward freely, and as low as has been accepted, ex quay Liverpool. Nitrate of soda is n all positions, stocks both in United Kingdom and Continental ing much reduced, and March sailing cargoes being very held. On spot 9s. 9d. is lowest for ordinary quality, and d. per cwt. for refined. Large transactions have taken place terms, for autumn shipment, at the equivalent of about 9s. 3d., l terms—pointing to a fairly high range of prices over next

WEST OF SCOTLAND CHEMICALS.

GLASGOW, TUESDAY.

mineral oil and paraffin section of the market there is con-uietness so far as new business is concerned, and thus conform-he usual condition of things at this season of the year, but turing goes on steadily at the works in view of a re-opening of usiness to meet the demands of the new season. American troleum certificates have made a further slight rise, being now , which is a movement favourable to the Scotch production, ered in and carried on to further rises. The weakest depart-the market is that of lubricating oils, always sensitive to dulness al trade. Gravity 865° is now quoted a fraction lower. ate of ammonia remains quite a vigorous market, with further s high as £14. 2s. 6d. f.o.b. Leith has been paid for prompt and £13. 17s. 6d. for forward; while for the latter some are now demanding £14., the price of prompt being at the e expected to go higher. Last week's continental shipments were small, but several parcels for Glasgow shipment to Java lemand, the latter being an increasing outlet. al chemicals are for the most part rather lifeless, although on report no drops from the tariff rates.

prices current are:—Soda crystals £2. to £2. 2s. 6d. nett, Tyne; 48/52° £3. 12s. 6d. to £3. 17s. 6d. nett, Tyne; white alkali 4 10s to £5. 5s. nett, Tyne; alum in lump £5. 10s. nett, Glasgow; oda, white, 74° £10., 70/72° £9., 60/62° £8. 2s. 6d., m 60/62° £7. 17s. 6d., all nett, Liverpool; bleaching powder , nett, Tyne; saltcake, 17s. 6d.; borax, English refined, s., and boracic acid, £32. 10s. nett, Glasgow; bicarbonate of wt. casks, £6. 10s., and 1 cwt. casks £6. 15s. nett, Liverpool; te of potash, 4½d. nett, for Scotch and English deliveries (for ¼d. nett, f.o.b. Glasgow); bichromate of soda, 3¾d. nett, for nd English deliveries (for export, 3½d. nett, f.o.b. Glasgow); chlorate of potash, 7¼d. less 5%, Liverpool; nitrate of soda, 9s. 10½d.; sulphate of ammonia, £14. 2s. 6d. prompt, f.o.b. Leith; salammoniac, first and second white, £39. and £37. nett, any port; sulphate of copper, £15. 10s., less 5% Liverpool; paraffin scale, hard 1⅞d. soft 1⅞d. to 2d. per lb.; paraffin wax 120° semi-refined 2¾d. to 2½d.; paraffin spirit (naphtha), 3½d. to 4d. per gallon; paraffin oil (burning), standard No. 1 grade, 5d. at works, for Scotch buyers (English sales, ½d. to ¾d. lower); ditto (lubricating) 865° £3. 10s. to £3. 12s. 6d.; 885° £4. to £4. 15s., and 890/895° £4. 15s. to £5. 10s. Week's imports of raw sugar at Greenock were 25,000 bags.

TYNE CHEMICAL REPORT.

TUESDAY.

New business in chemicals continues scarce, though shipments are at present fairly good. Bleach unchanged at £7. 10s. 76/77% Caustic, £10. 10s. per ton. Sulphur quiet, at £3. 17s. 6d. Soda crystals, 41s. locally.

Bleaching Powder, softs, £7. 10s. per ton, nett; hards, £7. 15s per ton. nett; caustic soda, 76/77%, £10. 10s. per ton, nett; do., 70%, £9. per ton, nett; recovered sulphur, 2 cwt. bags, £3. 17s. 6d. per ton, nett. soda ash, 48%, £3. 12s. 6d. per ton, nett; do., 52%, £3. 16s. 3d, per ton, nett; do, 56%, £4. per ton, nett; alkali, 36%, £2. 15s. per ton, nett; white alkali, 48%, £4. 10s. per ton, nett; do, 50%, £4. 15s. per ton, nett; do., 52%, £5. 5s. per ton, nett; hyposulphite of soda, 5-7 cwt. casks, £5. per ton, nett; do., 1 cwt. kegs, £5. 10s. per ton, nett; silicate of soda, 75° Tw., £2. 17s. 6d. per ton, nett; do., 100° Tw., £3. 12s. 6d per ton, nett; do., 140° Tw., £4. per ton, nett; soda crystals, casks, £2. 1s. per ton; gross weight; do., 2 cwt. bags, £2. 1s. per ton, nett; chlorate of potash, 7¼d. per lb, less 6%; pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £4. 2s. 6d, per ton, nett; blanc fixe, £7. 10s. per ton, nett; chloride of barium, £7. 10s. per ton, nett; carbonate of alumina, £28. 15s. per ton, nett; aluminate of soda, £33. 15s. per ton, nett; in 5 ton lots, £28. 10s. per ton, nett.

Salt: South Durham firm, and scarce at 10s. per ton, f.o.b. Tees.

Coal.—The Northumbrian coal trade is steady, and collieries are working fairly well. Best Northumbrian steam, 9s. 9d. per ton; second qualities, 8s. 9d. per ton; small steam, 4s 6d. and 4s. 9d. per ton. Bunker coal quiet, 7s. per ton. Coke in stronger demand, at 13s. and 14s. per ton.

Northumberland Miners.—According to the ballott returns in up to date, the application of the owners for a reduction in wages of 3¼ per cent. seems likely to be acceded to.

HULL PAINT, OIL, AND COLOUR REPORT.

TUESDAY.

OILS.—The situation here in the oil trade cannot be said to have materially changed except in linseed oil, which has advanced 10s. per ton. The exports have not been equal to past weeks, and amongst the principal imports compared with same time a year ago are the following:—Linseed 183,593 qrs., against 135,150 qrs.; rapeseed 44,695 qrs., against 15,814 qrs.; cottonseed 108,816 tons, against 102,769 tons; olive oil 9,724 casks, against 5,361 casks; rape oil 3,464 casks, against 3,081 casks; oil cakes 8,886 tons, against 8,642 tons; tallow 8,320 cwts., against 12,634 cwts.; bones, 3,479 tons against 3,016 tons; turpentine 4,352 barrels, against 3,476 barrels. Linseed oil has improved about 10s. per ton closing quiet at 20s. 10½d. naked spot; June, 21s. 3d.. July-August offer at 19s. 7½d., and September-December at 18s. 6d. Boiled and refined from £1. to £2 per ton extra. Export for the week 1,280 cwts. Refined cotton oil quiet at 19s. 3d. naked spot; June-August at 19s. 6d.; November-April 17s. 9d. Export of refined 1,160 cwts 2,000 tons of cottonseed have arrived during the week from Alexandria. Rapeseed oil remains very flat with a market practically unchanged. Olive oil not so plentiful on the spot. Turpentine 23s. Castor oil, first pressure, from 2¼d. per lb. Cod oil in very little demand, apart from contracts, £17. to £19. per ton. A large quantity of herring oil is offering about the market, and could be bought cheap. Sod oil for tanners, curriers, etc., from £16. to £21. per ton. Engine and cylinder oils from 1s. to 2s. per gallon.

CAKES.—The cold weather has stimulated the demand for cakes. Linseed cakes unchanged; 95% £6. 15s. to £6. 17s. 6d. per ton; Russians, £6. 17s. 6d. Oilcakes, £5. 17s. 6d. Cotton cakes of limited supply, with prices tending upwards, buyers offer £4. 2s. 6d. but find few sellers.

PAINTS.—For the home trade makers continue busy. The prices are:—Venetian red dry, £3. 10s. per ton; blue black, £4. 5s. per ton; mineral black, £3. 15s. Good yellow ochre offered at £3. 10s. White lead in oil £17. 10s. Red lead, dry, £13. 10s. Common black varnish £5. 10s. per ton. Oak varnish from 5s. 6d. per gallon.

New Companies.

William Paul, Limited.—CAPITAL £150,000., in shares of £5. each. This company has been formed to acquire and carry on the business of tanners and curriers at Oak Tarnby, Leeds, now carried on by Mr. W. Paul. The subscribers to the memorandum of association are :—Wm. Paul, Cookridge Hall, Leeds, tanner; T. W. Paul, Cookridge Hall, Leeds, tanner; J. A. Paul, Cookridge Hall, Leeds, tanner; R. D. Plumbly, Lyddon Villa, Leeds, tanner; P. Richardson, Portland Towers, Knighton, tanner; J. Preston, Leeds, cashier; T. W. Clough, Spen Lane Farm, Kirkstall, tanner.

Glasgow Acetic Acid Company, Limited.—CAPITAL £10,000., in shares of £10. each. This company has been formed to purchase the business of Messrs. Lyness and Gibson, acetic acid manufacturers, of Glasgow, and to carry on the same. The subscribers to the memorandum of association are :—Sir J. N. Cuthbertson, 29, Bath-street, Glasgow; T. Henderson, 29, Bath-street, Glasgow, chemical broker; W. B. Galbraith, C.A., 107, Buchanan-street, Glasgow; J. M Parker, 7, Montrose-street, Glasgow, merchant; R. C. Lyness, 77, Canal-street, Glasgow; John Forrester, 2, Colebrook-terrace, Glasgow, warehouseman; A. Knox, 221, West George-street, Glasgow, surveyor.

Gazette Notices.

PARTNERSHIP DISSOLVED.

WILLIAM H. ELLIS, WILFRID H. ELLIS, AND G. ELLIS, Leicester, lime and cement manufacturers, under the style of John Ellis and Sons.

BANKRUPTCY ACTS, 1883 and 1890.

Adjudication.

SWERTAPPLE, E., Langley Hall, near Carlisle, late of Allenwood, Carlisle, Marron Bank, near Cockermouth; the Derwent Paper Mills, near Wokingham; Bootle, near Liverpool, and Newcastle-on-Tyne, paper manufacturer.

The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of R. Davis, who report professionally upon the value of Chemical Patents.

BRITISH LETTERS PATENT.

APPLICATIONS FOR ENGLISH LETTERS PATENT.

Process for Preserving Timber. H. C. Stephens. 9,511. May 15.
Improvements in Filter Beds. T. Cosham. 9,519. May 15.
Improvements in Centrifugal Separators. H. R. Pomeroy. 9,533. May 15.
Treating Lead Ores. A. G. Fell. 9,536. May [illegible] A. Bauchère.
Improvements in Hydrogen Gas Machines. May 15 [illegible]ensed Water
Continuous Kilns for Burning Lime, Cement, etc. Richmond.
Improvements in Traps for Discharging Conduits Avoiding a Vacuum. C. G. Norris and G. H. [illegible],655. M[illegible]evan. May 17.
Improvements in Making White Lead. J. S. McArthur. [illegible] May
Manufacture of Cellulose Acetate. C. F. Cross and E. J. [illegible] May 17.
Improvements in Pulverising Machines. C. Wegener. 9,739.
Vessels for Containing Gases under Pressure. W. W. Pop[illegible] May 18.
Improved Funnels for Liquids. A. and R. Stott. 9,748. May 18.
Improved Electrolytic Apparatus. T. Craney. 9,761. May 18.
Utilising Acid Sulphates and Acids, and Obtaining Nitric and Hydrochloric Acids. A. Campbell and A. Walker. 9,782. May 19.
Improvements in Generator Gas Furnaces. W. Ewing. 9,783. M[illegible]
Precipitating Impurities from the Waste Waters of Bleach and Dye Works, etc. G. H. Wolstencroft. 9,787. May 19.
Trinitroresorxine as a Smokeless Driving Powder. J. Hauff. May 19.
Water Purifying and Softening Apparatus. G. G. Hooper and Tyocke. 9,814. May 19.

IMPORTS OF CHEMICAL PRODUCTS AT THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending May 19th.

Acetic Acid—
Holland, 167 pkgs. A. & M. Zimmermann

Alkali—
Germany, 41 pkgs. L. & I. D. Jt. Co.
France, 210 c. Arnati & Harrison

Alum—
Germany, 200 pkgs. R. W. Greeff & Co.
Holland, 182 Ohlenschlager Brs.

Ammonium Nitrate—
Germany, 1 ck. Petri Brs.

Anthracene—
Spain, 129 pkgs. Burt, Boulton & Co.

Antimony Ore—
Sydney, 9 t. T. Merry & Son
" 1 G. J. McCaul & Co.
" 21 H. Bath & Son

Asbestos—
Germany, £150 Beck & Pollitzer
U. States, 430 W. Byford

Barytes—
Germany, 132 cks. W. Harrison & Co.
Belgium, 146 A. Zumbeck & Co.
" 33 S. Ward & Co.
" 45 J. L. Lyon & Co.

Camphor—
Japan, 2 pkgs. J. Swire & Sons

Caoutchouc—
E. Indies, 40 c. Ralli Brs.
" 800 Huttenbach & Co.
France, 23 H. Johnson & Sons
" 3 Mory & Co.
Greytown, 6 Prop. Bull Wf.
Zanzibar, 5 L. & I. D. Jt. Co.
Aden, 13 Clarke & Smith

Castor Oil—
Italy, 20 cs. City Coml. Wf., Ld
E. Indies, 16 cks. Cayzer, Irvine & Co.
" 100 cs. Wrightson & Sons
" 50 Anderson, Weber & Smith

Caustic Potash—
France, 100 c. 20 drs. Spies Bros. & Co.
" 45 Petri Bros.

Chemicals (*otherwise undescribed*)
U. States, 24 pkgs. A P. Morris
Germany, 24 T. H. Lee
" 57 A. & M. Zimmermann
" 30 H. Lambert
" 30 Craven & Co.
" 1 L. & N. W. Ry.
" £10. L. & I. D. Jt. Co.
Holland, 22 pkgs. H. Lorenz
" 18 G. Rahn & Co.

Citrate of Lime—
Italy, 20 pkgs. Thames S. T. & L. Co., Ld
" 10 B. Jacob & Sons

Cream of Tartar—
Italy, 41 pkgs. B. Jacob & Sons
" 17 Howards & Sons
France, 4 B. & F. Wf. Co.
" 10 M. Ashby, Ld.
" 20 W. C. Bacon & Co.
Holland, 16 Kirkpatrick & Co.

Dextrine—
Germany, 10 pkgs. Prop. Sun Wf.
" 100 G. Boor & Co.
" 50 M. D. Co.
France, 30 J. W. Draper & Co

Disinfectants—
Germany, 13 pkgs. Rosenberg, Loewe & Co.

Dyestuffs—
Argols
Italy, 143 pkgs. Thames S. T. & L. Co., Ld.
" 890 B. Jacobs & Sons
Cutch
Rangoon, 500 pkgs. Galbraith, Pembroke & Co.
Extracts
U. States, 5 pkgs. W. Burton & Sons
" 50 Skilbeck Bros.
Denmark, 36 J. Forsey
Austria, 500 A J. Humphrey
Canada, 80 "

Fustic
Mexico 5 t. R. B. Watson & Co
Gambier
E Indies, 1,634 pkgs. Beresford & Co.
Indigo
E. Indies, 1 cht. Eales & Rutherford
" 44 chts R. Von Glehn & Sons
" 6 Arbuthnot, Latham & Co.
" 28 L. & I. D. Jt. Co.
" 1 Croysdale & Co.
Logwood
Mexico, 30 t. R. B. Watson & Co.
Jamaica, 17 L. & I. D. Jt. Co.
Myrabolams
E. Indies, 667 pkgs. J. P. Alpe & Co.
" 1,366 A. Hagan
" 667 Hoare, Wilson & Co.
Sumac
Italy, 500 pkgs. J. Kitchen, Ld.
" 500 Beresford & Co.
Holland, 100 G D. Jennings & Co.
Tanners' Bark
N. Zealand, 5 t. L & I. D. Jt. Co.
Belgium, 18 Leach & Co.
Adelaide, 63 Beresford & Co.
U. States, 22 H. Kohnstamn
Melbourne, 1 Oetzes & Gerritsen
Turmeric
E. Indies, 201 pkgs. Prop. Bull Wf.
" 269 Hoare, Wilson & Co.
" 79 L. & I. D. Jt. Co.
" 60 S. Figgis & Co.

Farina—
Holland, 100 pkgs G. Hornzee
" 50 Prop Chmbln. s Wf.
" 68 J. Barber & Co.

Glucose—
Germany, 800 pkgs. 800 c. Baxter & Hoare
" 25 202 Prop. Chmbln.'s Wf.
France, 200 200 L. Norman & Co., Ld.
U. States, 100 510 Prop. Scott's Wf.
" 734 780 Seaward Brs., Ld.
" 1,800 3,258 L. Sutro & Co.
" 400 1,150 Un[illegible]
" 50 300 S[illegible]
" 50 300 D[illegible] R
" 250 1,375 Chmb[illegible]
" 200 900 L. & [illegible]

Iron Bromide—
Germany, 3 pkgs. A. & M.[illegible]

Iron Oxide—
Austria, 18 cks. Magee, Tayl[illegible]

Lead Acetate—
Germany, 18 pkgs. F[illegible]

Manure—
Germany, 10 t. T[illegible]
" 25 T. McCarn[illegible]
" 356 Anglo-Con[illegible]
" 200 Odam's [illegible] Ma[illegible]
" 54 Humphr[illegible]
" 52 F. W. Berk & [illegible]
E. Indies, 50 A. Hunt[illegible]
" 50 F. J. Corn[illegible]
Argentine, 170 F.[illegible]
Belgium, 196 Anglo-Con[illegible]
U. States, 1,100 "
" 1 Essim[illegible]
Newport, 110 West &[illegible]
France, 200 Arnati &[illegible]
Holland, 30 H. &[illegible]

Methyl Alcohol—
U. States, 30 brls. Elk[illegible]
Sweden, 4 dms. Lister
Germany, 5 Elk[illegible]

Mica—
E. Indies, £40. L & I. D[illegible]
" 15 Prop.[illegible]
U. States, 45 C. F.[illegible]
Ceylon, 82 L. & I. D[illegible]
" 10 Anderson, Web[illegible]

ks B & F. Wf. Co.
Stobbs, Wilson & Co
W. Harrison & Co.
rls. W. Pope & Co
kgs. Phillipps & Graves
ks. Pickford & Co.

rls. Anglo-American Oil Co.
kgs. Galbraith, Pembroke & Co

ck—
Lawes Manure Co.
West & Penrose
Anglo Cont. Guano Wks
H. & E. Albert
Miller & Johnson
Odam's Chmcl Manure Co.

rls. C B. Leighton
Poch Hille & Co.
Fellows, Morton & Co

rls Doulton & Co.
J. Thredder, Son & Co
Wrightson & Son

Petri Brs.

carbonate—
A. & M. Zimmerman

omide—
kgs. S. Lambert & Co.

rbonate—
Carey & Sons

lorate—
kgs. L. & I. D. Jt. Co.

anide—
kgs. Hammond & Co.

ymuriate—
kgs. G. Boor & Co.

rmanganate—
kgs. City Coml. Wf., Ltd.

lphate—
kgs. Co.-op. L. Assn., Ltd.
T. Farmer & Co.
A. Hunter & Co.

Stobbs, Wilson & Co
Tudow, Nash & Co.
B. & N. Whvs. Co.
T. H. Dore & Co

C. Tennant Sons & Co
Anderson, Anderson & Co.

rls. Moore & Hole

kgs. J. Owen

te—
kgs. H. Lorenz

sulphite—
pkgs. J. Owen

pkgs. Horne & Co.

" Phillipps & Graves
" Little & Johnston
G. Rahn & Co.
Leach & Co.
W. Balchin
F. Rosenthal & Co.
G Hornzee
Beck & Pollitzer

bgs. Beresford & Co.
H. Hill & Sons

t. G. Boor & Co.
Brandram Bros. & Co.
Co -op. L. Assn., Ltd.
F. V. Smythe & Co.
A. Gibbs & Sons
W. C. Bacon & Co.
F. Smith
Anderson & Co.
F. & L. Sitzler
F. C. Devon & Co.

Davies, Turner & Co

Tartaric Acid—
Holland, 40 pkgs. B. & F. Wf. Co.
" 40 Kirkpatrick & Co.
" 6 F. C. Devon & Co.

Turpentine—
N. Russia, 52 brls. Chiesman & Co.
Germany, 5 cs. H. Lambert
Rangoon, 100 dms Galbraith Pembroke & Co.

Ultramarine—
Holland, 2 cs Phillipps & Graves
" 4 cks. Spies Brs, & Co.
" 2 Magee, Taylor & Co.
Germany, 3 cs H. Brooks & Co.
Belgium, 11 pkgs W. Harrison & Co.

Varnish—
France, 2 pkgs. Flageollet & Co.
" 8 Hernu, Peron & Co.
Belgium, 15 Stobbs, Wilson & Co.

Verdigris—
France, 2 pkgs. B. & F. Wf. Co.

White Lead—
Germany, 84 cks. N. J. Fenner & Co.
" 16 F. Pryor
" 20 G. Farmiloe & Sons
" 22 Thames S. T & L. Co., Ltd.
" 39 pkgs S. H. Willoughby
" 5 cks. J. Matton
Belgium, 10 J. L. Lyon & Co.
" 18 Colthurst & Harding
" 8 cs. R. G. Jones, Price, & Co

Wood Pulp—
Germany, 400 pkgs. W. Friedlander
" 163 O. Herrlich
" 14 T. H. Lee
" 119 W. G. Jacobs
Norway, 720 Henderson, Craig, & Co.
" 480 W. G Taylor & Co.
" 100 Christophersen & Co.
" 600 J. Dickinson & Co.
" 1,500 Moreton Cox Bros.
Sweden, 400 "
" 1,080 Tough & Henderson
Canada, 15,868 E. J. & W Goldsmith
Holland, 63 J. Owen
Austria, 1,000 W. D. Cork, jnr.

Zinc Oxide—
U. States, 100 brls. M. Ashby, Ltd.
Holland, 20 "

Zinc Sulphate—
Germany, 31 pkgs. F. Smith

LIVERPOOL.

Week ending May 17th.

Acetate of Lime—
New York, 1,649 bgs.

Asbestos—
Montreal, 1,000 bgs.

Barytes—
Antwerp, 50 bgs. 15 cks.

Bone Meal—
Bombay, 2,889 bgs.
Rangoon, 872

Boracite—
Constantinople, 250 t.

Borate of Lime—
Valparaiso, 750 bgs.

Castor Oil—
Marseilles, 217 brls. 126 cks. 15 cs.

Chrome Ore—
Baltimore, 20 brls.

Colours—
Hamburg, 50 cs.
Antwerp, 4 cks.

Cream of Tartar—
Tarragona, 5 cks. Sachse & Klemm
" 4 brls.

Dyestuffs—
Argols
Oporto, 16 cks. German Bk., London
Cutch
Rangoon, 6,128 bxs.
Divi Divi
Hamburg, 580 bgs.
Extracts
New York 25 bxs. 1 brl.
Philadelphia, 100
Marseilles, 20
Baltimore, 10 Houston & Laurisch
Indigo
Bordeaux, 11 cs.

Logwood
New York, 50 brls.
Madder
Smyrna, 5 bls.
Myrabolams
Bombay, 4,307 bgs. D. Sassoon & Co.
Orchella
Lisbon, 21 bdls. Leech, Harrison & Co
Sumac
Hamburg, 1 bl.
Barcelona, 100 bgs.
Turmeric
Bombay, 164 bgs.
" 80 T. H. Moore & Co.
Valonia
Smyrna, 566 bgs
" 146 t. Barry Brs.

Glucose—
New York, 699 brls.

Infusorial Earth—
Hamburg, 32 bgs.

Iodine—
Valparaiso, 188 brls. 10 kgs.
" 98 A. Gibbs & Sons
" 147 Lantaro Nitrate Co.

Iron Oxide—
Trieste, 13 cks. Cabain Brs.

Mineral White—
Fiume, 100 bgs.

Ochre—
Marseilles, 25 brls. 103 cks.
Alicante, 90

Paraffin Scale—
New York, 1,016 brls.

Paraffin Wax—
Rangoon, 300 bxs.

Potash—
Hamburg, 77 cks.
Montreal, 25 brls.

Potash Salts—
Hamburg, 250 bgs.

Potassium Prussiate—
Marseilles, 3 cks.

Pumice Stone—
Messina, 10 bgs.

Pyrites—
Huelva, 1,444 t. Matheson & Co.

Rosin—
Baltimore, 850 brls.

Salt—
Suez, 2 sks.

Saltpetre—
Hamburg, 36 cks. 75 kgs.

Soap—
Philadelphia, 63 crts.
Marseilles, 5 cs. T. W. Nicholson
" 25 R F. Downing & Co.
Bari, 176
Marseilles, 600 bxs.
Victoria, B.C., 47 R. D. Welch & Co.
Boston, 5 cs. Boot's Pure Drug Co.

Starch—
Antwerp, 20 cs. J. T. Fletcher & Co.

Stearine—
Antwerp, 13 bgs.

Sulphur Ore—
Seville, 1,074 t. Novelli & Co.

Tallow—
Boston, 21 hds.
New York, 325 tcs.
Campana, 400 cks. Riv. P Fresh Meat Co.
Baltimore, 54 brls.

Tartar—
Bordeaux, 6 cks.

Ultramarine—
Hamburg, 6 cks

Varnish—
New York, 9 brls.

Waste Salt—
Hamburg, 2,211 bgs. 1 hf.-bg.

White Lead—
Rotterdam, 13 cks.

Wood Pulp—
Boston, 162 rolls E. F. Callister & Co
New York, 1 cs.
Oporto, 200 bls. Ciama Wood Pulp Co.
" 1,000
Boston, 640 pkgs.
Gothenburg, 204 bls.

Zinc Ashes—
Marseilles, 13 brls.

Zinc Oxide—
Antwerp, 60 brls.

Zinc Skimmings—
Boston, 180 bdls.

Zinc White—
Hamburg, 80 cks.

MANCHESTER.

Week ending May 19th.

Carbonic Acid—
Rotterdam, 10 tbs Simpson, Howden & Co.

Colours—
Rotterdam, 20 cs. 12 cks. 3 brls.
" 115 pkgs. 2 3 bxs. 44 Simpson, Howden, & Co.
Antwerp, 8 cs. 2 brls.

Dyestuffs—
Alizarine
Rotterdam, 1 cs. 17 brls.

Farina—
Rotterdam, 740 bgs.

Lead Acetate—
Rotterdam, 3 cks. Simpson, Howden, & Co.

Litharge—
Rotterdam. 3 cks Simpson, Howden, & Co.

Potash—
Antwerp, 20 dms.

Salt—
Antwerp, 1 ck.

Sodium Nitrate—
Rotterdam, 6 cks Simpson, Howden, & Co.

Starch—
Rotterdam, 80 cs.

Tar Oil—
Antwerp, 26 cks.

Tartaric Acid—
Rotterdam, 10 cks.
" 14 Simpson, Howden, & Co

Wood Pulp—
Rotterdam, 10 pkgs.

HULL.

Week ending May 19th.

Acetate of Lime—
New York, 196 bgs. Wilson, Sons, & Co., Ld.

Alkali—
Bremen, 8 pks. Veltmann & Co.

Albumen—
St. Petersburg, 30 cs.

Asbestos—
Flushing, 4 bls. Hutchinson & Son

Barytes—
Rotterdam, 24 cks. W. & C. L. Ringrose
Antwerp, 44 140 bgs. Bailey & Leetham
" 22 100 H. F. Pudsey
" 21

Carbonic Acid—
Rotterdam, 40 tubes Wilson, Sons, & Co., Ld.

Chemicals (*otherwise undescribed*)
Danzig, 13 cks. W. & C. L. Ringrose
Hamburg, 20 cks. Wilson, Sons, & Co., Ld.
Stettin, 60 "
Antwerp, 250 pks. "
Dunkirk, 68 "

Colours—
Danzig, 8 cks. W. & C. L. Ringrose
Boston, 1 kg. Wilson, Sons, & Co., Ld.
Ghent, 12 cs. "
Rotterdam, 6 52 29 pks. W. & C. L. Ringrose
" 5 1 4 Hutchinson & Son
" 3 Bailey & Leetham
" 4 Todd & Son
" 10 Storry, Witty, & Co.

Bremen, 4 Veltmann & Co.
Hamburg, 7 "
Antwerp, 1 Wilson, Sons, & Co., Ltd.
Flushing, 2 38 Hutchinson & Son
Rotterdam, 1 2 Wilson, Sons, & Co., Ltd.

Dextrine—
Stettin, 100 bgs. Wilson, Sons, & Co., Ltd.

Alizarine Dyestuffs—
Rotterdam, 31 cks. W. & C. L. Ringrose

Cutch
Hamburg, 50 bls. Wilson, Sons, & Co., Ltd.
Bombay, 97 bxs. "

Madder
Rotterdam, 2 cks.
" 3 Hutchinson & Son

Myrabolams
Bombay, 11,023 bgs

Valonia
Smyrna, 154 t.

Farina—
Hamburg, 400 bgs. Wilson, Sons, & Co., Ld.
Stettin, 2,100 "
" 300
Ghent, 169 cs. Wilson, Sons, & Co., Ld.
Amsterdam, 100 bgs. W. & C. L. Ringrose
Harlingen, 100

Glucose—
New York, 250 brls. 350 pks.

Manure—
Ghent, 203 t. 500 bgs. Wilson, Sons, & Co., Ltd.

Paint—
Boston, 50 cs. Wilson, Sons, & Co., Ltd.
New York, 80 16 pks. "

Phosphate—
Antwerp, 500 bgs. Bailey & Leetham

Pitch—
Antwerp, 21 cks.

Rosin—
Wilmington, 4,515 brls. J. M. Hamilton & Co.

Salt—
Hamburg, 8 cks. Wilson, Sons, & Co., Ld.

Saltpetre—
Hamburg, 205 kgs Wilson, Sons, & Co., Ld.
Antwerp, 135 bgs. "

Sodium Acetate—
Antwerp, 8 cks. Blundell, Spence, & Co.

Sodium Nitrate—
Hamburg, 76 bgs. Wilson, Sons, & Co., Ld.
Rotterdam, 3 cks. Hutchinson & Son

Starch—
Ghent, 80 cs. Wilson Sons, & Co., Ld.
Bremen, 2,093 Veltmann & Co.
Antwerp, 160 Bailey & Leetham

Stearine—
Rotterdam, 50 bls Wilson, Sons, & Co , Ltd.
Antwerp, 10 bgs. "

Tallow—
New York, 50 hhds. Wilson, Sons, & Co., Ld.

Tar—
St. Petersburg, 5 cks. Wilson, Sons, & Co., Ld.

Tartaric Acid—
Rotterdam, 2 cks. Hutchinson & Son

Ultramarine—
Hamburg, 2 cks.
Rotterdam, 2 W. & C. L. Ringrose
" 4 Todd & Son
" 14 cs. Sissons Bros. & Co.

Varnish—
Amsterdam, 4 cks. F. Durose & Co.

White Lead—
Cologne, 69 cks.
Rotterdam, 20 Hutchinson & Son
Antwerp, 37 Bailey & Leetham

Wood Pulp—
Abo, 275 bls. Furley & Co.

Zinc Oxide—
Hamburg, 5 cks. Bailey & Leetham

Zinc White—
Cologne, 20 cks.

GLASGOW.

Week ending May 24th.

Acetone—
Hamburg, 1 ck.

Ammonia (Liquid)—
Antwerp, 3 dms.

Aniline Oil—
Rotterdam, 1 brl. J. Rankine & Son

Arachide Oil—
Rotterdam, 1 ck. J. Rankine & Son

Barium Sulphate—
Antwerp, 420 bgs. 25 cks.

Barytes—
Rotterdam, 46 cks. J. Rankine & Son
" 39 20 bgs.

Bone Meal—
Bombay, 4,889 bgs.

Boracic Acid—
Leghorn, 5 cks.

Carbonic Acid—
Rotterdam, 15 tbs.

Castor Oil—
Leghorn, 10 cs.
Marseilles, 49 136 brls.
Antwerp, 37 cks.

Chemicals *(otherwise undescribed)*
Hamburg, 10 cs.

Colours—
Rotterdam, 25 cks. 9 cs. J. Rankine & Son
Antwerp, 5
Rotterdam, 25 pkgs.

Cream of Tartar—
Marseilles, 24 cks.

Dyestuffs—
Alizarine
Rotterdam, 6 brls 2 bxs. J. Rankine & Son
" 90 pkgs.

Annatto
Bordeaux, 3 cks.

Argols
Bordeaux, 52 cks.

Cutch
Rangoon, 1,250 bxs.

Extracts
Nantes, 120 cks.
Antwerp, 2

Madder
Marseilles, 12 cks.

Sumac
Palermo, 110 bgs.

Farina—
Hamburg, 550 bgs.

Glucose—
New York, 296 brls.

Ochre—
Marseilles, 226 cks.

Oxalic Acid—
Rotterdam, 6 cks.

Paint—
Boston, 15 cs.
Marseilles, 40

Paraffin Scale—
Philadelphia, 500 brls.

Paraffin Wax—
Rangoon, 940 cs.

Phosphates—
Ghent, 1,000 bgs.

Potash—
Rotterdam, 50 cks.

Pumice Stone—
Rotterdam, 1 cs. J. Rankine & Son
Genoa, 100 bgs.
Leghorn, 30
Messina, 5 cks.
Philadelphia, 140 Wordie & Co.

Pyrites—
Huelva, 1,954 t. Tharsis Co.

Rosin—
New York, 952 brls.

Soap—
Leghorn, 30 cs.
New York, 51 8 pkgs.
Marseilles, 135

Starch—
New York, 525 bgs. 2,200 sks. 1,000 bxs.
Montreal, 20 bxs.
Antwerp, 120 cs.

Sulphur—
Catania, 500 bgs. 25 brls.
Marseilles, 100

Tallow—
New York, 20 tcs.
Philadelphia, 11

Tar—
New York, 309 brls.

Tartar—
Bordeaux, 34 cks.

Ultramarine—
Rotterdam, 5 cs.

Varnish—
Genoa, 44 dms. 1 brl.
New York, 13 brls.
Antwerp, 10 cks.

Waste Salt—
Hamburg, 339 cks. 122 t. 611 bgs.

White Lead—
Rotterdam, 36 cks. J. Rankine & Son
Antwerp, 3
Rotterdam, 17

Wood Pulp—
Christiania, 1,668 bls.

Zinc Oxide—
Rotterdam, 20 cks. J. Rankine & Son

TYNE.

Week ending May 10th.

Alum Earth—
Hamburg, 18 cks. Tyne S. S. Co

Barytes—
Rotterdam, 48 cks. Tyne S. S. Co.
Antwerp, 70 231 bgs. "

Colours—
Rotterdam, 1 bx. Tyne S. S. Co

Paint—
Hamburg, 4 cks. Tyne S. S. Co.

Phosphate—
Antwerp, 365 t. Langdale's Chmcl. Manure Co.

Saltpetre—
Harburg, 440 t.
Hamburg, 3 cks. Tyne S. S. Co.

Starch—
Rotterdam, 110 cs. Tyne S. S. Co.

Stearine—
Rotterdam, 12 bls Tyne S. S. Co.

Tartaric Acid—
Rotterdam, 4 cks. Tyne S. S. Co.

Wood Pulp—
Gothenburg, 116 pkgs.
Christiania, 5 bls.

Zinc Oxide—
Rotterdam, 25 cks. Tyne S. S. Co.

GOOLE.

Week ending May 16th.

Alkali—
Calais, 18 cks.

Aniline Oil—
Rotterdam, 2 cks

Caoutchouc—
Boulogne, 1 cs.

Dyestuffs—
Extracts
Ghent, 100 cks.

Logwood
Jamaica, 520 t.
M. Christi, 591

Dyestuffs *(otherwise undescribed)*
Boulogne, 5 cks. 12 cs.

Potash—
Dunkirk, 130 dms. 60 cks.
Calais, 13

Pyrites—
Huelva, 748 t.

Saltpetre—
Rotterdam, 100 bgs.

Waste Salt—
Hamburg, 150 t. 199 cks.

Zinc Oxide—
Antwerp, 20 brls.

GRIMSBY.

Week ending May 19th.

Caoutchouc—
Hamburg, 11 cs.

Chemicals *(otherwise undes.)—*
Hamburg, 17 cs.

Dyestuffs *(otherwise undescribed)*
Dieppe, 27 cks.

EXPORTS OF CHEMICAL PRODUCTS

OF

THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending May 23rd.

Acetic Acid—
Wellington, 18 c. £35

Acids—
Madras, 22 pkgs. £42
Natal, 10 cs. 26
Demerara, 3 c. 10
London, 30 22

Alkali—
Greytown, 18 t. 17 c. £100
La Libertad, 10 5

Alum Cake—
Melbourne, 5 t. £14

Aluminous Cake—
Calcutta, 37 t. 1 c. £130

Ammonia (Liquid)—
Rio de Janeiro, 2 c. £8

Ammonium Carbonate—
St. Petersburg, 1 t. 10 c. £56
B. Ayres, 1 38
Melbourne, 5 20 cs. 48

Ammonium Chloride—
Sydney, 1 t. 2 c. £28
Santos, 10 26
Christiania, 1 11 38

Ammonium Sulphate—
Rotterdam, 30 t. £420
Hamburg, 300 13 c. 4,200

Arsenic—
St. Petersburg, 5 t. 10 c. £98
Timaru, 1 27
Amsterdam, 12 cks. 34
Lyttelton, 1 15 30

Borax—
Adelaide, 10 c. £13
Oporto, 6 8
Gothenburg, 1 t. 10 100
Aarhuus, 2 18 144

n,	3	14		86
ia,		4		11
Acid —				
m,	10 t.	1 c.		£203
neiro,		9		10
		13		7
Soda—				
on,	5 t.	10 c.		£51
on,	1	12		43
		8		8
wn,		4		6
y,		15		14
e,	5	3		49
,	13	13		122
	12	10		135
	57	19		535
ls *(otherwise undescribed)*				
	3 cs			£12
	50			110
s,	4			99
id—				
a,	3 t.	16 c.	4cks.	£624
		2		15
sburg,	3	9		514
		8		69
g,	3	17		579
		5	1	70
m,		5		34
2 kgs.				14
		12		83
gen,		10		69
		10		69
ee, 2 cs.				20
			2	67
es, 21 kgs.				143
m,		2		14
oducts—				
rine				
ne,		5 kgs.		£15
ne				
		25 cs.		£170
ne Dyes				
		1 cs.		£14
l				
en,	40 dms			£346
g,	30			235
e,	30 pns.			185
tha'ine				
m,	20 kgs.			£10
rk,	110 pkgs.			152
	49			42
g,	150 cks.			233
fin Wax				
,	20 bgs			£14
		10 brls.		£25
,	2,158 t			1,179
			498 cks	178
,	168			235
	180			225
ong,			501	260
's, N.B ,			137	82
	370			530
ria,		350		101
,	175			241
		70	30	27
,		12		8
rk,			200	94
lon,	qty.			£7
		50 cks.		30
	32 dms.			10
,		147 rns.		169
tinople,		10		16
		15		7
oil				
burg,	250 cks.			£176
ol				
ie,	24 cks.			£237
am,		98 rns.	23 pns.	595
rg,	123			445
oducts *(otherwise undes.)*—				
Bay,	15 dms.			£6
Sulphate—				
	23 t.	5 c.		£380
		15		12
	4	6		70
ax,	61			976
on,	1			16
	5			90
	178	9		2,822
	50			800
n,	40			640
of Tartar—				
e,		10 c		£32
tle,		5		22
ctants—				
a,	5 t.		185dms.	£6
own,		15 c.	10	55
Bay	2	10		23

Yokohama,			250	50
Hamburg,	50 cks.			250
Brussels,	3 cs.			11
Sydney,	23		5 pkgs.	76
Melbourne,	10			23
Hong Kong,	4 t.	8 c.		196
Bombay,			205 dms.	87
Flowers of Sulphur—				
E. London	40 kgs.			£29
Cape Town,	7 t.	12 c.		78
Melbourne,	2			11
Wellington,	2			16
Guano—				
Demerara,	50 t.			£550
Manure—				
St. Kitts,	10 t.	10 c.		£122
Jamaica,	25	12		231
Gandia,	150			1,200
Las Palmas,	19			114
Orotava,	1	12		19
Trinidad,	100	3		1,090
Barbadoes,	54	2		594
Valencia,	950	1		8,050
Nitric Acid—				
Cape Town,		2 cs.		£7
Jersey,		15 cbs.		27
Oxalic Acid—				
Dunkirk,	5 t.			£150
Potash —				
Madras,	6 kgs.			12
Calcutta,	3 cks.			15
Potash Crystals—				
Brussels,	1 cs.			£25
Halifax,	2			58
Paris,	1			12
Toronto,	2			15
Potassium Bicarbonate—				
Bombay,		7 cs.		£17
Potassium Bichromate —				
Melbourne,		10 c.		£21
Potassium Chlorate—				
Melbourne,		5 c.		£16
Potassium Chlorate and Strontium Nitrate —				
Bombay,		8 cs		£48
Potassium Cyanide—				
Madras,	5 cks	4 c.		£53
Shanghai,	5 cs.			28
Potassium Prussiate—				
Trinidad,	2 cks.			£10
Salt Cake—				
Antwerp,	135 t.			£236
Saltpetre —				
Melbourne,	3 t	10 c.		£79
Adelaide,	1	10		33
Oporto,	2	4		46
E. London,	1	2		24
Madeira,		6		9
Sheep Dip—				
E. London,	850 dms			£169
Cape Town,		9 c.		24
Wellington,		5 cs.		14
Pt. Elizabeth,	250			49
Mossel Bay,		25		125
Soda—				
Cape Town,	3 t.	6 c.		£8
Sydney,	2	10		15
Melbourne,	2			12
Christiania,		6		6
Constantinople,		11		7
Soda Crystals—				
Adelaide,	4 t.	19 c.		£11
Nelson,	2	19		8
Sodium Bicarbonate—				
Riga,		15 c.		£6
Sydney,		12		13
Sodium Carbonate—				
Lyttelton,	1 t.			£8
Sodium Hyposulphite—				
Melbourne,	8 cks.			£13
Adelaide,	15 t.			83
Strontium Nitrate—				
Calcutta,		1 c.		£13
Sulphur—				
E. London,	125 cks.			£108
Madeira,		13 c.		9
Bombay,	3 t.	15		38
Cape Town,	100 kgs.	250 cks.	4 t. 9 c.	317

Sulphuric Acid—				
Cape Town,	6 t.	10 c.		£60
Colombo,	3	15	25 cs.	37
Penang,	10 dms.			13
Natal,			20	16
Chinde,		16		16
Superphosphate—				
Timaru,	250 t.			£938
Mauritius,	200			925
Tartaric Acid—				
Melbourne,	2 t.	10 c.		£235
Adelaide,	1			98
Shanghai,	1 ck.			11
St. Petersburg,	1 kg			13
Calcutta,		3		11
Tartaric and Citric Acids—				
Cape Town,		2 c.		£12
Zinc Sulphate—				
Lisbon,		12 brls.		£15

LIVERPOOL.

Week ending May 23rd.

Alum—				
Lisbon,	6 t.			£42
Ancona,	7			49
Porto Alegre,	1	2 c.		6
Melbourne,	1	10		7
Oporto,	10	4		56
Malta,		3		1
B. Ayres,	20			98
Alexandretta,	19	7		123
Smyrna,	2	12		13
Alum Cake—				
Rio de Janeiro,	25 t.	15 c		£94
Alumina Sulphate —				
Sydney,	12 t.	2 c.	1 q.	£5
Ammonium Carbonate—				
Marseilles,		6 c.		£10
Copenhagen,	2 t.		1 q	72
Ammonium Chloride—				
Rosario,		10 c.		£17
New York,	5 t.	3	2 q	129
Alexandria,	2			74
Ibrail,		3	2	6
Smyrna,		18		25
Ammonium Sulphate—				
Nickerie,	5 t.		2 q	£68
Barbadoes,	3	11 c.	2	47
Valencia,	167	17	1	2,252
Antwerp,	7	6	3	97
Las Palmas,	6			84
Gd. Canary,	6			81
Samarang,	37	14		528
Antimony—				
Salonica,	1 ck.			
Galatz,	1			
Asbestos—				
Valparaiso,	1 cs.			
Maranham,	1	1 bl.		
Rio de Janeiro,	4			
Bleaching Powder—				
Boston,	984 cks.			
Corunna,	8			
Lisbon,	293			
New York,	69			
Rouen.	43			
Baltimore,	170			
Ancona,	11			
Genoa,	44			
Havana,		10 cs		
Oporto,	154	14 brls.		
San Sebastian,	29			
Venice,	25			
Alexandria,		12 c.		£17
Hong Kong,		10		14
Boracic Acid—				
San Francisco,	1 t.	4 c.	3 q	£40
Borate of Lime—				
Antwerp,	30 t.			£292
Borax—				
Montreal,	2 t.	4 c.		£47
Hamburg,	1	5	1 q	41
Alexandria,		4		6
Pt. Elizabeth,	1			25
Christiania,	1	1		30
Stettin,	1	15		43
Rotterdam,	5	5		113
Galatz,	1	3		25
Calcium Chloride—				
M. Video,	5 t.	15 c.	1 q.	£18

Carbolic Acid—				
Hamburg,	26 t.	10 c.	1 q	£1362
Castor Oil—				
Colon,	100 bxs.			
Caustic Potash—				
B. Ayres,	1 t.	1 c.		£28
Caustic Soda—				
Alexandria,	16 dms.			
Calcutta,	208			
Fiume,	105			
Genoa.	169			
New York,	550	140 brls.	20 cs.	
Para,	30			
Rouen,	51			
Seville,	280	40		
Valencia,	32			
Alicante,	80			
Amsterdam,	80			
Bahia	10			
Barcelona,	120		72 cks.	
Boston,	250	5		
Callao,	70			
Ceara,	30			
Jaffa,	125			
Malta,	9			
Marseilles,	60			
Penang,	30			
Rotterdam,	10			
St Petersburg,	200			
Baltimore,	245			
Bari,	18			
B. Ayres,		10 kgs.		
Hamburg.	3			
London, Ont ,	35			
Maceio,	2			
Madeira,	20			
Melbourne,	31			
Montreal,	135			
N. Orleans,	50			
Puerto Cabello,	18			
St. Stephen,	50			
Toronto,	20			
Vera Cruz,	135			
Chemicals *(otherwise undescribed)*				
Christiania,	1 t.	9 c.	1 q	£54
Hamburg,		5		9
Alexandria,	1			30
China Clay—				
Bombay,	94 t.	15 c.		
Boston,	1,261			
Montreal,	150	17		
New York,			200 cks	
Genoa,	40	9		
Chloroform—				
Montreal,	2 cs.			
Coal Products—				
Alizarine Colour				
New York,	16 kgs.			
Aniline Colours				
Montreal,	3 kgs.	1 cs.		
New York,	1 ck.	1		
Barcelona,		3		
Aniline Oil				
Genoa,	7 dms.			
Aniline Salts				
Boston,	20 cs.			
New York,	48			
Piræus,	6 brls.			
Anthracene				
Rotterdam,	50 brls.			
Benzol				
Calcutta,	1 cs.			
Diamine and Naphthol Colour				
New York,	14 cks	1 cs.		
Naphthol Colour				
New York,	10 cks.			
Pitch				
Galatz,	50 brls.			
La Rochelle,	979 t.	4 c.		
Genoa,	902	12		
Tar				
Galatz,	25 brls.			
Genoa,	2			
Leghorn,	1			
Cobalt Oxide—				
Gijon,		1 c.		£32
Copperas—				
Syra,	3 t.	2 c.		£6
Larnaca,	2	9		5
Smyrna,	7	10		13
Alexandretta,	5			10

opper Sulphate—
Santander, 3 t. 13 c. £53
Venice, 41 5 623
Genoa, 24 371
Lisbon, 15 230
Bordeaux, 247 18 2,681
Vigo, 5 1 3 q. 77
Naples, 11 5 3 175

Disinfectants—
Bombay, 1 c. 3 q. £10

Dried Blood—
Gd. Canary, 9 t. £96

Farina—
Bombay, 18 bgs.

Iron Oxide—
San Juan, 5 t 5 c. £12

Litharge—
Oporto, 8 cks.

Magnesia—
Paris, 8 c. 1 q. £19
Vera Cruz, 3 cs.
Barcelona, 82

Magnesium Chloride—
Malaga, 2 t. £7

Manganese Sulphate—
Rio de Janeiro, 100 kgs.
Puerto Cabello, 20 bdls.
Santa Domingo, 10 cks.
Para, 5

Manure—
Bordeaux, 1 t. £6
Teneriffe, 3 10 c. 2 q. 7

Ochre—
Bilbao, 8 brls.

Oxalic Acid—
Barcelona, 10 c. 2 q. £18
B. Ayres, 11 17

Paint—
Bahia, 25 kgs.
B. Ayres, 6 cks.
Callao, 26
Cape Town, 2
Colombo. 5
Gibralter, 11 1
Hamburg, 26 1
Montreal, 70 cs.
Mossamedes, 2
Opobo, 12 dms.
Port au Prince, 1
Porto Rico, 10
Rangoon, 5 2
Sourabaya, 1 33
Amsterdam, 6 6
Arica, 4
Barranquilla, 10 12 brls.
Beyrout, 10
Cape Haitien, 2
Nassau, 1
Ponce. 15
Shanghai, 44 dms.
Singapore, 20
Tal Tal, 4
Vera Cruz, 1
Arroyo, 3
Axim, 8
Caibarien, 1
Cienfuegos, 3
Dunkirk, 14
Iquitos, 4 brls.
La Libertad, 300 10
Maranham, 6
Matanzas, 2
Melbourne, 60
M. Video 5
Philadelphia, 68
Rio Grande, 2

Painters' Colours—
Bathurst, 17 kgs. 1 ck.
Bombay, 268 1 17 cs.
Boston, 2
Caibarien, 2 brls.
Calcutta, 13
Galatz, 150 6 50
Gijon, 4
Havana, 8
Ibrail, 9
Lisbon, 20 12 dms.
London, Ont., 12 15 cs.
Manaos, 25 brls. 16 3
Matanzas, 2
Mazatlan, 1
M. Video, 14 20
Nassau, 2
Santander, 10 8
Seville. 6
Sierra Leone, 32 1
E. London, 30 14
Hamburg, 70 bgs. 29 5
Hong Kong, 200 6 tcs. 24 brls.
Iquique, 65 cs.
New York, 25 cks 60 6
Para, 25 fkns. 188 39 5 22 brls.
Parnahyba, 4
Pernambuco, 10
Rio Grande, 50
Salaora, 1
Santos, 2 cs. 5 6
Tunis, 10
Vera Cruz, 40 5
Belize, 1 122 7
Brass, 39
Kingston, Jam., 7
Malmo, 15
Mayaquez, 2 4
Stockholm, 20

Paraffin Wax—
Bordeaux, 7 cs.
Bilbao, 60 bgs.
Para, 4 cks

Paris White—
Gijon, 12 cks.

Phosphorus—
Shanghai, 25 cs. £250
San Juan, 5 48
E. London, 12 6
Tampico, 5 58
Mexico, 6 66

Plumbago—
Huelva, 1 ck.

Potassium Bichromate—
Rio de Janeiro, 16 c. 3 q. £35
Piræus, 1 t. 3 48

Potassium Chlorate—
St. Petersburg, 12 t. 10 c. £757
New York, 31 10 1,873
Hamburg, 7 382
Copenhagen, 9 546
Cape Town, 1 59
Hong Kong, 10 32
Mexico, 1 10 94
Philadelphia, 1 5 72
M. Video, 2 10 141
Matanzas, 2 124
Bari, 2 16 161
Antwerp, 10 29
Genoa, 1 59
Boston, 2 10 159
Kingston 20 kgs. 65
Oporto, 10 29

Rosin—
Hamburg, 53 brls.

Salt—
Abonnema, 60 t.
Algoa Bay, 23 17 c.
Ambriz, 7 7
Archangel, 500
Boma, 8 18
Boston, 951 10
Callao, 17
Cameroons, 66 14
Christiania, 8
Guayaquil, 10
Hamburg, 100
Malta, 5
M. Video, 21 8
Montreal, 1,794 15
Noquin, 14 5
Quebec, 2,132
Rouen, 15
Salt Pond, 36 2
Valparaiso, 51 1
Westervick, 330
Antwerp, 115
Baltimore, 140
Brussels, 1 13
Calcutta, 8,636
E. London, 8 18
Ghent, 160
Gothenburg, 20
Halifax, 710
Melbourne, 65
Newcastle, 37 17
Para, 100
Picton, N.S., 1,009 15
Pt. Natal, 5
Rotterdam, 224
Shediac, 300
Sierra Leone, 10
Vera Cruz, 10
Demerara, 53 10
New York, 50
Santos, 1
Sydney, 610

Saltcake—
Baltimore, 50 t. 8 c. £70
Boston, 5 4 10
New York, 40 13 3 q. 41
Antwerp, 100 99

Saltpetre—
Piræus, 7 t. 10 c. £130
Maranham, 1 10 41
Para, 2 10 57

Sheep Dip—
Calcutta, 1 t. 13 c. 3 q. £36
Rangoon, 11 12

Soap—
Accra, 52 bxs. 5 cs.
Algoa Bay, 1,749 264
Barbadoes, 960
Belize, 1,095
Brussels, 2,612
C. C. Castle, 242 3
Cape Town, 2,300 120
E. London, 200 40
Genoa, 100
Gibraltar, 165
Hamburg, 259
Hiogo, 300
Jersey, 3 pcls. 82 21 hf-bxs.
Kingstown, 601
Las Palmas, 92
Madras, 120 31
Malta, 105 30
Montreal, 201
Mossel Bay, 1,330
Naples, 6
New York, 1 4 cks.
Pt. Natal, 920
Rotterdam, 401
San Francisco, 3
San Juan, 100
Sav la Mar, 300
Shanghai, 1,600
Singapore, 398 5
Sydney, 1,854
Syra, 10
Christiania, 50
Bakana, 350
Bathurst, 58
Catania, 50
Chama. 75
Christiania, 30
Colombo, 1
Colon, 95
Constantinople, 300 20
Curacao, 85
Demerara, 2,100
Drewin, 112
Elmina. 50
Gr. Canary, 230
Hong Kong, 400
Lagos, 20
Monrovia, 35
Old Calabar, 950
Opobo, 250
Para, 1
Pernambuco, 2
Pram Pram, 100
St. John's N'fd., 14
St Lucia, 325
Salonica, 39
Surinam, 50
Teneriffe, 142
Valparaiso, 2
Bermuda. 79
Fogo, Nfld, 6
Halifax, 250
St Gall, 120
Warri, 200
Zurich, 230

Soda Alkali—
Genoa, 35 brls.
Leghorn, 57
Messina, 52
Victoria, B.C., 35

Soda Ash—
Adelaide, 212 cks.
Baltimore, 337 2,656 bgs. 187 tcs.
Boston, 221 1,240 160
B. Ayres, 145 250 brls.
Callao, 30 10
E. London, 20 kgs.
Fiume, 80
Hiogo, 30 50
Melbourne, 703
New York, 254 5,904 322 tcs
Para, 5
Valparaiso, 100
Antwerp. 26 775
Barcelona, 39
Coquimbo, 5
Ghent, 23 67
Gothenburg, 43 80
Hamburg, 16 250
Pernambuco, 2
Philadelphia, 181 1,360 292
Rio de Janeiro, 100 brls.
Rotterdam, 355 70 50
Smyrna, 80
Varna, 100
Vigo, 10
Konigsberg, 9
Maranham, 40
Montreal, 80 50
Puerto Cabello, 8
Trieste, 11 30
Venice, 75
Victoria, V.I., 34

Soda Crystals—
Antofagasta, 20 cks.
Boston, 124 112 brls. 100 bgs.
B. Ayres, 60
Constantinople, 50
Montreal, 6 cs.
New York. 30
Philadelphia, 224 100 bgs.
" 167 brls.

Soda Salt—
Boston, 16 cks.

Sodium Arseniate—
Boston, 3 cks.

Sodium Biborate—
Hamburg, 20 cks.
Alicante, 5
Antwerp, 39
Bremen, 2
B. Ayres, 20 kgs.
Genoa, 40 cs.
Montreal, 28 brls.
Naples, 16

Sodium Bicarbonate—
Adelaide, 190 kgs. 19 cks.
Amsterdam, 75
Antwerp, 82 5
Barcelona, 100
Bombay, 40
Bremerhaven, 12 2
B. Ayres, 100
Cape Town, 4
Charlotte Town, 100
Christiania, 54
Constantinople, 50
Copenhagen, 100
Durban, 20
Genoa, 30
Halifax, 100
Hiogo, 200
Hong Kong, 30
Kobe, 1,000
Malta, 7 10
Marseilles, 65
Melbourne, 654 8
Naples, 30 2
Rotterdam, 18
Rouen, 10
Toronto, 100 20
Alexandria, 50
Bari, 50 5
Guatemala, 20
Havre, 120
Hamburg, 20 kgs.
London, Ont., 5
Montreal, 20
Odessa, 290
Santos, 50
Seville, 80 24 20
Trieste, 90

Sodium Carbonate—
New York, 112 brls.

Sodium Chlorate—
New York, 7 t. 10 c.
St. Petersburg, 2
Antwerp, 2
Danzig, 3
Rotterdam, 20 kgs.

Sodium Silicate—
Barcelona, 100 bxs.
Boston, 10 cks.
Ghent, 4 br
Seville, 20
Barranquilla, 10 dms. 2

Sodium Sulphate—
Hamburg, 7 brls
Montreal, 4 cks

Sulphur—
Nickerie, 1 t. 12 c. 3 q.
Boston, 300 9
Calcutta, 2
Sydney, 2

Sulphuric Acid—
Nickerie, 1 t. 6 c. 1 q.
R. Grande do Sul, 18 3

Superphosphate—
Las Palmas, 6 t.
Nantes, 65 1 q.
Arucas, 10

Turpentine—
Bathurst, 6 dms.
Santo Domingo, 10
Panama, 6

Ultramarine—
Yokohama, 6 brls.

Varnish—
Havana, 1 cs.
Montreal, 1
Barranquilla, 2
Calcutta, 1 ck. 15 brls
Vera Cruz, 4
Leghorn, 3 4
Philadelphia, 2
Tal Tal, 1
Tonala, 1

ng—
pton, 2 brls.
raiso, 110 bgs.
nham, 20
hloride—
ay, 19 c. £10

ANCHESTER.

Week ending May 23rd.

—
erp, 4 dms. 3 brls.
—
burg, 50 kgs.
e Salt—
burg, 1 pn.
a—
lona, 1 cs. 1 kg.
rdam, 20 10
of Tartar—
burg, 30 cks.
cts—
rdam, 5 cks.
Acid—
rdam, 2 cks.
—
erp, 15 dms. 3 cks. 1 kg.
h—
erp, 1 kg.
lona, 10 cks.
burg, 1,440 bgs.
—
erp, 3 kgs 3 bxs.
m Arsenlate—
erp, 9 cks.
burg, 3
r—
erp 1 kg.
rdam, 13 cks.
alts—
rdam, 60 cks.
sh—
erp, 2 dms.

HULL.

Week ending May 19th

—
n, 2 cks.
o, 8
, 15
nium Sulphate—
burg, 186 bgs.
hing Powder—
n, 209 cks.
, 70
es, 11
n, 144
—
tiania, 1 cs.
ne, 16 cks.
n, 1
, 1
lc Soda—
10 cks.
en, 4 dms.
ngfors, 1
o, 1
es, 102
, 162 300 kgs.
n, 70
rg, 9 4
, 15 5
icals (*otherwise undescribed*)
erp, 6 cs. 20 pkgs.
erdam, 4 cks.
, 1
eaux, 10
tiania, 46 4 1,055 slbs.
enburg, 20 8 10 pkgs.
burg, 1 299
, 6 70
eilles, 9
, 5 400
tersburg, 44
n, 3 44
rg, 5
, 9 1
nseed Oil—
erp, 200 c.
erdam, 14
en, 176
ne, 330
erg, 170
burg, 327
eilles, 625

Norrkoping, 102
Rotterdam, 1,127
Stettin, 100
Stockholm, 503
Uerdingen, 598

Dyestuffs (*otherwise undescribed*)
Antwerp, 10 cks. 80 bls.
Boston, 7
Christiania, 20
Flushing, 2
Hamburg, 3
Riga, 1
St. Petersburg, 52

Linseed Oil—
Antwerp, 10 c.
Aalesund, 7
Bergen, 219
Bordeaux, 34
Christiansund, 46
Christiansand, 52
Christiania, 1,392
Cologne, 104
Drontheim, 209
Hango, 413
Hamburg, 113
Rotterdam, 50
Stettin, 200
Stockholm, 10

Ochre—
Hamburg, 4 cks.

Paint—
Bergen, 3 cks.
Christiania, 17 1 cs.

Painters' Colours—
Antwerp, 27 cks. 88 dms. 2 cs.
Amsterdam, 1
Abo, 15 pkgs. 2 1
Bergen, 2
Boston, 160 pks. 6
Christiania, 44
Dunkirk, 11 18 1
Drontheim, 2
Flushing, 6 pkgs. 10 3
Genoa, 49
Helsingfors, 35 5
Hamburg, 10
Leghorn, 1
N. York, 35 pks. 110
Naples, 6
Riga, 4
Rotterdam, 24 pkgs. 5
St. Petersburg, 154 34
Stavanger, 22 pks
Stettin, 61 200
Stockholm, 3 2
Wasa, 6

Paraffin Wax—
Libau, 100 bls.
Leghorn, 35

Paris White—
San Francisco, 307 cks.

Pitch—
Antwerp, 128 t.
Dunkirk, 302
Helsingfors, 4 c

Slag—
Abo, 395 t.
Christiania, 75
Drontheim, 50

Soap—
Antwerp, 100 cs.
Drontheim, 10

Tallow—
Rotterdam, 51 cks.
Wasa, 150

Tar—
Amsterdam, 22 cks.
Abo, 197
Christiansund, 5 brls.
Drontheim, 5
Flushing, 5
Helsingfors, 81
Hamburg, 10
Norrkoping, 5
Rotterdam, 15
St. Petersburg, 3 cs.
Wyburg, 40
Wasa, 83
Zelzaete, £271

Varnish—
Antwerp, 1 cs. 18 cks. 1 dm.
Amsterdam, 1
Helsingfors, 3
St. Petersburg, 4

Whiting—
Rotterdam, 6 cks.

GLASGOW.

Week ending May 24th.

Ammonium Chloride—
Bilbao, 5 t. 19 c. £132

Ammonium Sulphate—
Spain, 277 t. 11¼ c. £3,977
Borax—
Cape Colony, 3 t. 10 c. £82
Carbolic Acid—
Rotterdam, 27 cks. £85
Chloride of Lime—
New York, 7 t. 6 c. £59
Coal Products—
Creosote Oil
Christiania, 25 brls. £9
Pitch
Montreal, 76 t. 6 c. £115
Antwerp, 150 157
Amsterdam, 250 350
Quebec, 25
New York, 26 24
Bombay, 52 4½ £139. 15s.
Tar
Christiania, 22 brls. £6
Quebec, 23 t. 3 c. 40
Bombay, 25 7½ £78. 17s.
Tar Oil
Hamburg, 2 dms. £52
Dyestuffs—
Alizarine
Montreal, 1¾ c. £32
Linseed Oil—
Quebec, 8 t. 13¾ c. £196
Cape Colony, 216 gls. 22
Litharge—
Montreal, 4 t. 9¼ c. £59
Manganese Oxide—
New York, 10 t. £95
Manure—
Spain, 297 t. 14¾ c. £2,600
Paint—
New York, 4 c. £35
Cape Colony, 1 t. 4¾ 32
Paraffin Wax—
Spain, 5 t. 2¾ c. £107
Rotterdam, 14 16
Italy, 6 16¾ 166
Fiume, 24 7½ 580
Cape Colony, 9 5¾ 284
Potassium Bichromate—
Spain, 9 t. 17 c. £384
Antwerp, 20 6½ 776
New York, 46 ¾ 1,826
Italy, 15 15 629
Fiume, 1 19½ 78
Bombay, 1 1½ 43
Potassium Prussiate—
New York 9¼ t. £762
Rosin Oil—
Rotterdam, 20 brls. £34
Slag—
Amsterdam, 192 t. £67
Soda Ash—
Antwerp, 5 t. 7 c. £27
Sodium Bichromate—
Spain, 15 c. £25
Italy, 3 t. 4¾ 105
Tallow—
Amsterdam, 1 t. 1 c. £28
Rotterdam, 17 4 607
White Lead—
Montreal, 20 t. 18¾ c. £249
Cape Colony, 5 10½ 79

TYNE.

Week ending May 19th.

Alkali—
Riga, 24 t. 16 c.
St. Petersburg, 20 2
Hamburg, 5 6
Rotterdam, 12 3
Alumina Sulphate—
New York, 10 t. 7 c.
Ammonium Chloride—
Pomaron, 2 c.
Ammonium Sulphate—
Odense, 2 t. 10 c.
Antimony—
St. Petersburg, 10 t 12 c.
Antwerp. 1
Hamburg, 2 10
New York, 45
Arsenic—
Copenhagen, 1 t. 2 c.
Barytes Carbonate—
Hamburg, 123 t. 9 c.
Rotterdam, 50
Bleaching Powder—
Konigsberg, 7 t. 1 c.
Riga, 15 4
St. Petersburg, 90 14
Hamburg, 29 11
Gothenburg, 5 3
Bergen, 2
Drontheim, 13 3
Ghent, 201 8
Rotterdam, 25 6
Copenhagen, 19 15
Bilbao, 11 2
Bone Ash—
Spezzia, 5 t. 7 c.
Caustic Soda—
Batoum, 10 t. 2 c.
Riga, 15 3
St. Petersburg, 7 3
Antwerp, 3 3
Hamburg, 9 19
Christiania, 4 18
Bergen, 2 18
Aarhuus, 1 4
New York, 79 3
Bilbao, 3 9
Colours—
New York 4 cks.
Copperas—
Rotterdam, 12 c.
Hydrochloric Acid—
Ergasteria, 1 c.
Litharge—
St. Petersburg, 14 t. 11 c.
Antwerp, 6
Magnesia—
Antwerp, ¾ c.
Hamburg, 7
Manganese Carbonate—
St. Petersburg, 1 t.
Paint—
Constantinople, 19 c.
Antwerp, 6
Bergen, 7
New York, 12 t.
Copenhagen, 1 4
Potassium Chlorate—
St. Petersburg. 13 t. 15 c.
Slag—
Rotterdam, 274 t.
Soda—
Antwerp, 5 t. 7 c.
Christiania, 9 15
Esbjerg, 25
Nakskov, 10 15
Maribo, 6 9
Rotterdam, 26 19
Soda Ash—
Konigsberg, 10 t. 2 c.
Riga, 10 1
Christiania, 15 11
White Lead—
St. Petersburg, 1 t. 5 c.
Drontheim, 5
New York, 10
Copenhagen, 5 12

GOOLE.

Week ending May 16th.

Chemicals (*otherwise undescribed*)
Boulogne, 2 cks. 16 dms.
Ghent, 2
Hamburg, 4
Rotterdam, 25
Coal Products (*otherwise undescribed*)—
Ghent, 20 cs.
Hamburg, 3 cks.
Rotterdam, 26
Dyestuffs (*otherwise undescribed*)
Ghent, 1 ck. 2 dms.
Hamburg, 1 1 cs.
Manure—
Antwerp, 14£ bgs.
Boulogne, 135

GRIMSBY.

Week ending May 19th.

Ammonium Sulphate—
Hamburg, 30 t.
Chemicals (*otherwise undescribed*)
Dieppe, 100 btls.
Hamburg, 8 cs. 33 pkgs.
Rotterdam, 1 ck. 8 btls.
Coal Products (*otherwise undes.*)
Dieppe, 30 cks. 90 brls. 5 pkgs. 3 kgs.
Malmo, 25

PRICES CURRENT.

WEDNESDAY, May 30th, 1894.

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 116, PORTLAND STREET, MANCHESTER.

The values stated are F.O.R. at maker's works, or at usual ports of shipment in U.K. The price in different localities may vary.

	£	s.	d.
Acids :—			
Acetic, 25 °/₀ and 40 °/₀ .. .. per cwt.	6	6 &	10 6
,, Glacial .. .. ,,			50/-
Arsenic S.G., 2000° .. .. ,,	0	14	6
Fluoric .. .. per lb.	0	0	3¼
Muriatic (Tower Salts), 30° Tw. .. .. .. per bottle	0	0	10
,, (Cylinder), 30° Tw. .. .. ,,	0	3	0
Nitric 80° Tw. .. .. per lb.	0	0	1¾
Nitrous .. .. ,,	0	0	1¾
Oxalic .. .. nett ,,	0	0	3¾
Phosphoric, 1750° .. .. ,,	0	1	0
Picric .. .. ,,	0	1	0
Sulphuric (fuming 50 °/₀) .. .. per ton	15	10	0
,, (monohydrate) .. .. ,,	5	10	0
,, (Pyrites, 168°) .. .. ,,	3	0	0
,, ,, 150° .. .. ,,	1	5	0
,, (free from arsenic, 145°) .. .. ,,	1	6	0
Sulphurous (solution) S.G. 1025 .. .. ,,	3	0	0
Tannic (pure) .. .. per lb.	0	1	1
Tartaric .. .. ,,	0	0	11
Arsenic, white powdered .. .. nett per ton	14	0	0
Alum (loose lump) .. .. ,,	5	2	6
Alumina Sulphate (pure) .. .. ,,	5	0	0
Aluminoferric .. .. ,,	2	7	6
Aluminium .. .. per lb.	0	3	0
Ammonia, Anhydrous .. .. ,,	0	1	3
,, ·880=28° B. .. .. per lb.	0	0	3
,, =24° B. .. .. ,,	0	0	2¾
,, Carbonate .. .. nett ,,	0	0	3¾
,, Muriate .. .. per ton	24	10	0
,, ,, (sal-ammoniac) 1st & 2nd .. per cwt.	39/- &		37/-
,, Nitrate .. .. per ton	44	0	0
,, Phosphate .. .. per lb.	0	0	10½
,, Sulphate (grey) London .. .. .. per ton	14	0	0
,, ,, (grey) Hull .. .. ,,	14	0	0
Aniline Oil (pure) .. .. per lb.	0	0	5½
Aniline Salt ,, ... ,,	0	0	5¼
Antimony .. .. per ton	45	10	0
,, (tartar emetic) .. .. per lb.	0	0	10
,, (golden sulphide) .. .. ,,	0	0	10
Barium Chloride .. .. per ton	6	10	0
,, Carbonate (native) .. .. ,,	3	10	0
,, Sulphate (native levigated) .. .. .. ,,	45/-	to	75/-
Bleaching Powder, 35 % .. .. nett ,,	7	10	0
,, Liquor, 7 % .. .. ,,	3	10	0
Bisulphide of Carbon .. .. ,,	11	15	0
Chromium Acetate (crystal) .. .. per lb.	0	0	6
Calcium Chloride .. .. per ton	2	5	0
China Clay (at Runcorn) in bulk .. .. .. ,,	17/6	to	30/-
Coal Tar Products and Dyes :—			
Alizarine (artificial) 20 % .. .. .. net per lb.	0	0	8
Magenta .. .. ,,	0	3	9
Anthracene, 30 % A, f.o.b. London .. per unit per cwt.	0	1	1
Benzol, 90 % nominal .. .. .. per gallon	0	1	1
,, 50/90 ,, ... ,,	0	1	4
Carbolic Acid (crystallised 40°) .. .. .. per lb.	0	0	6¼
,, (crude 60°) .. .. per gallon	0	1	7
Creosote (ordinary) .. .. ,,	0	0	1½
,, (filtered for Lucigen light) .. .. ,,	0	0	2½
Crude Naphtha 30 % @ 120° C. .. .. .. ,,	0	0	5¾
Grease Oils, 22° Tw. .. .. per ton	2	10	0
Pitch, f.o.b. Liverpool or Garston .. .. .. ,,	1	9	0
Solvent Naphtha, 90 % at 160° .. .. .. per gallon	0	1	2½
Lucigen" and "Wells Oils .. .. ,,	0	0	2½
Copper .. .. per ton	39	0	0
,, Sulphate .. .. ,,	15	10	0
,, Oxide (copper scales) .. .. ,,	39	5	0
Glycerine (crude) .. .. ,,	15	10	0
,, (distilled S.G. 1250°) .. .. ,,	44	0	0
Iodine .. .. nett, per oz.	0	0	9
Iron Sulphate (copperas) .. .. per ton	1	4	0
,, Sulphide (antimony slag) .. .. ,,	2	0	0
Lead (sheet) for cash .. .. ,,	10	5	0
,, Litharge Flake (ex ship) .. .. ,,	13	0	0
,, Acetate (white ,,) .. .. ,,	25	15	0
,, ,, brown ,,) .. .. ,,	16	10	0
,, Carbonate (white lead) pure .. .. .. ,,	20	0	0
,, Nitrate .. .. ,,	20	0	0
Lime, Acetate (brown) .. .. per ton	5	17	6
,, ,, (grey) .. .. ,,	10	5	0
Magnesium (ribbon and wire) .. .. per oz.	0	2	3
,, Chloride (ex ship) .. .. per ton	2	10	0
,, Carbonate .. .. per cwt.	1	17	6
,, Hydrate .. .. per ton.	17	0	0
,, Sulphate (Epsom Salts) .. .. per ton	3	0	0
Manganese, Sulphate .. .. ,,	17	15	0
,, Borate .. .. per cwt.	2	12	6
,, Ore, 70 % .. .. per ton	4	5	0
Methylated Spirit, 61° O.P. .. .. per gallon	0	2	2
Naphtha (Wood), Solvent .. .. ,,	0	3	7
,, ,, Miscible, 60° O.P .. .. .. ,,	0	4	3
Oils :—			
Cotton-seed .. .. per ton	21	5	0
Linseed .. .. ,,	22	10	0
Petroleum, Russian .. .. per gallon	0	0	3¼
,, American .. .. ,,	0	0	5¼
Phosphorus (yellow) .. .. per lb.	0	2	2
,, (red) .. .. ,,	0	2	9
Potassium (metal) .. .. per oz.	0	3	7
,, Bichromate .. .. nett per lb.	0	0	4½
,, Carbonate, 90% (ex ship) .. .. .. per ton	16	15	0
,, Chlorate .. .. per lb.	0	0	7¼
,, Cyanide, 98% .. .. ,,	0	2	0
,, Hydrate (Caustic Potash) 80/85 % .. per ton	21	15	0
,, ,, (Caustic Potash) 75/80 % .. ,,	20	0	0
,, ,, (Caustic Potash) 70/75 % .. ,,	19	10	0
,, Nitrate (refined) .. .. per cwt.	1	2	6
,, Permanganate .. .. per cwt.	3	2	6
,, Prussiate Yellow .. .. per lb.	0	0	10¼
,, Sulphate, 90 % (ex ship) .. .. .. per ton	9	15	0
,, Muriate, 80 % (do.) .. .. .. ,,	8	7	6
Silver (metal) .. .. per oz.	0	2	4½
,, Nitrate .. .. ,,	0	2	10
Sodium (metal) .. .. per lb.	0	3	4
,, Carb. (refined Soda-ash) 48 % .. nett per ton (F.O.B.)	4	17	6
,, ,, (Caustic Soda-ash) 48 % .. ,, ,, (F.O.B.)	4	2	6
,, ,, (Carb. Soda-ash) 48% .. .. ,, ,, (F.O.B.)	4	0	0
,, ,, (Alkali) 58 % .. .. .. ,, ,, (F.O.B.)	3	15	0
,, ,, (Soda Crystals) .. .. .. ,, ,, (F.O.B.)	2	12	6
,, Acetate (ex-ship) .. .. ,,	14	15	0
,, Arseniate, 45 % .. .. ,,	11	0	0
,, Chlorate .. .. per lb.	0	0	8¾
,, Borate (Borax) .. .. net, per ton.	23	0	0
,, Bichromate .. .. ,, per lb.	0	0	3¾
,, Hydrate (77 % Caustic Soda) (f.o.b.) net pr. ton (10 ton lots)	10	15	0
,, ,, (74 % Caustic Soda) ,, ,, ,, (10 ton lots)	9	17	6
,, ,, (70 % Caustic Soda) ,, ,, ,, (10 ton lots)	8	17	6
,, ,, (60 % Caustic Soda) .. ,, ,, (10 ton lots)	7	17	6
,, ,, (60 % Caustic Soda, cream) (f.o.b.) ,, (10 ton lots)	7	15	0
,, Bicarbonate .. .. ,,	6	12	6
,, Hyposulphite .. .. ,,	5	12	6
,, Manganate, 30% .. .. ,,	16	0	0
,, Nitrate (95 %) ex-ship Liverpool .. .. per cwt.	0	9	7½
,, Nitrite, 98 % .. .. per ton	29	10	0
,, Phosphate .. .. ,,	15	0	0
,, Silicate (glass) .. .. per ton	5	7	6
,, ,, (liquid, 100° Tw.) .. .. .. ,,	4	5	0
,, Stannate, 40 % .. .. per cwt.	3	0	0
,, Sulphate (Salt-cake) .. .. per ton.	0	17	6
,, ,, (Glauber's Salts) .. .. ,,	1	5	0
,, Sulphide .. .. ,,	8	10	0
,, Sulphite .. .. ,,	5	15	0
Strontium Hydrate, 100% .. .. ,,	8	10	0
Sulphocyanide Ammonium, 95 % .. .. per lb.	0	0	7¼
,, Barium, 95 % .. .. ,,	0	0	5
,, Potassium .. .. ,,	0	0	7½
Sulphur (Flowers) .. .. per ton.	7	12	6
,, (Roll Brimstone) .. .. ,,	5	15	0
,, Brimstone : Best Quality .. .. ,,	3	17	6
Superphosphate of Lime (26%) .. .. ,,	2	7	6
Tallow .. .. ,,	26	0	0
Tin Crystals .. .. per lb.	0	0	6¼
English Ingots .. .. ,,	75	10	0
Zinc (Spelter) .. .. per ton	15	15	0
,, Chloride (solution, 96° Tw.) .. .. .. ,,	5	10	0

THE

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reports, and correspondence on all matters of interest to the and allied industries, home and foreign, are solicited. lents should condense their matter as much as possible, le side only of the paper, and in all cases give their names ses, not necessarily for publication. Sketches should be arate sheets.

are invited to forward items of intelligence, or cuttings from papers, of interest to the trades concerned.

ications for the Editor, if intended for insertion in the ek's issue, should reach the office not later than **Tuesday** .

Advertisements.

dvertisements of Situations Vacant, Premises on Sale or To be Let, s Wants, and Specific Articles for Sale by Private Contract are e *Chemical Trade Journal* at the following rates:—

o Words and under ..... 2s. 0d. per insertion
Each additional 10 words ..... 0s. 6d.

ments of Situations Wanted are inserted at one-half the when prepaid, viz.:—

o Words and under ..... 1s. 0d. per insertion
Each additional 10 words ..... 0s. 3d.

ertisements, Announcements in the Directory Columns, and all Advert- prepaid, are charged at the Tariff rates, which will be forwarded on

ments intended for insertion in the current week's issue h the office by **Wednesday morning** at the latest.

CURRENT TOPICS.

THE PROSPECTS OF SODIUM NITRATE.

IN spite of the abandonment of the *escritura*, and the temporary suspension of the Nitrate Combine, the position of affairs in this industry is decidedly promising. The demand has of late steadily increased, and though past experiences of the development of this industry have shown that the consumption is doubled each decade, there seems to be a good chance of the present decade proving a record.

The statistical outlook is undoubtedly good, the stocks in the United Kingdom being about half as large as they were at the same time last year, while the total visible supply is also some twenty-three thousand tons less now than it was then.

In addition to this the price is also considerably higher, and, in face of the foregoing particulars, should continue to maintain its firmness satisfactorily.

How long the present scarcity will continue it is naturally a rather difficult point to settle. The output is not likely to be less now than it was under the restriction of the Combine, though, incidentally, it may here be mentioned that the arrangements for renewing the limitation of the output by this agency still exist, and will most probably be made use of if the market is depressed through over-production. To revert to the prospect of an increased output, however, as a matter of fact, new and productive grounds are being opened up, while a fresh *officina* on a ground which has been worked for some time, is also to be opened shortly. Then, again, the situation revealed by the statistical returns is calculated to tempt the other fifteen companies of standing to increase their output, and so increment their dividends.

On the contrary, the fact that the demand is on the increase must not be overlooked, and the demand in Germany has been going up by leaps and bounds, the amount of nitrate consumed during the past five months of this year having been greater than during the whole of the preceding twelve months.

It is an open question whether the German consumption has not been stimulated by circumstances which are merely temporary, but, nevertheless, the present outlook is by no means unsatisfactory, while the causes for apprehension as to the future are few—at all events, for the nonce.

THE ETHICS OF OFFICIALISM.

The task of preventing the pollution of rivers is at present only fairly started, and no more. Consequently, the best methods of administrating the powers which Parliament has from time to time granted, have yet in a large measure to be learned. Such being the case, it would not be amiss if those who have authority in the administration of the River Pollution Acts would learn wisdom by comparing their methods with those which have been adopted under the Alkali Acts. The task of preventing the pollution of the atmosphere undertaken under these Acts so long since, was as large and diffi-

cult as that of preventing river pollution. If anything, the efforts of the past were thwarted more seriously by the plea that any restriction was hurtful to trade, than the efforts of to-day are by the same argument.

There is one point in particular to which close attention is desirable, and that is the regulations and conditions to which the officials and inspectors have to conform. The position of advisers to such Committees as the Mersey and Irwell Joint Committee is so similar to that held by the Alkali Inspectors that the regulations bearing upon the latter may well be applied to the former. The Joint Committee seem to have wisely awakened to the necessity of giving this matter close attention. Servants under the Alkali Acts are not allowed to be interested in patents or processes relating to the work they have to inspect. They are truly allowed to give advice, and that often valuable and of practical assistance, but they are never allowed to be the salaried employés of those they have to inspect. The Joint Committee in this matter have as yet only grappled with one half of the question, and that the wrong half. They are most careful to impress on those who appear before them that their engineer and inspector is not allowed to advise, but there the matter stops. It is not likely to do so for long, however. The position indicated in the following is very muchly too anomalous to exist for any great length of time. The Committee engage an official to advise them on some technical point. Their object is to have a competent man to thoroughly, fairly, and unhesitatingly state to the Committee the actual facts of the cases they have to consider. An outside party whose works come within the jurisdiction of the Committee also engages a specialist to advise him, and, in short, to so guide him as to enable him to escape the clutches of the law. With perfectly guileless intentions, maybe, he goes and engages the very individual who is the adviser to the criticising Committee. Unfortunately, public opinion is inclined to view such guilelessness with suspicion, and to think that such a course of action is more likely to be instigated by doubtful motives than by those we have suggested. But, in any case, the dual position is ludicrously incompatible. For one party to pay a man to advise them as to the necessity of prosecuting a second party, who is also paying the selfsame individual to help him to escape prosecution is a quite too Gilbertian situation, being contrary to all the dictates of common sense, and, if we mistake not, the principles of the law. Naturally, the existence of such conditions calls for prompt consideration, and it is very pleasing to notice that in the case of the Mersey and Irwell Joint Committee they are likely to be accorded the attention they merit.

TRANSPARENT LEATHER.

According to the *Magasin Pittoresque*, transparent leather may be manufactured as follows:—

After the hair has been removed from the hide, the latter, tightly stretched upon a frame, is rubbed with the following mixture:

Glycerine (26° B.)	1,000 parts.
Salicylic acid	2 ,,
Picric acid	2 ,,
Boric acid	25 ,,

Before the hide is absolutely dry, it is placed in a room which the rays of the sun do not penetrate, and is saturated with a solution of bichromate of potash. When the hide is very dry, there is applied to its surface an alcoholic solution of tortoise shell, and a transparent aspect is thus obtained.

This leather is exceedingly flexible. It is used for the manufacture of toilet articles, but there is nothing to prevent it from being used for foot gear, and, perhaps with fancy stockings, shoes made of it would not prove unpleasing to the sight. They would at least have the advantage of originality.

BRITISH COAL FOR THE UNITED STATES

A VERY natural result of the strike in the United States, an consequent inability to obtain bituminous coal at a fair r price, is that contractors and consumers have found it necessary to other markets for their supplies, pending the settlement of th pute and the fall of prices down to a reasonable level again. Th location of trade occasioned by the strike is peculiarly unfortuna America, for it comes on top of the partial suspension of general bu relations caused by the prolonged passage of the Wilson Tariff Bill th Congress and the Senate. Quite apart from this last cause, the mercial distress is sufficiently great. Not since 1885 has New Y the very centre of the arterial system of American commerce an great purchaser of bituminous coal—experienced such a coal fami this—a famine so serious as to threaten not only to lead to the sh up of its manufactories and the partial tieing up of its railways, b reduction of its ocean steamship service. Strikes of coal mine and down the country have been tolerably frequent in the past, l most of the earlier occurrences it was the anthracite interest tha affected—that is, anthracite owners and household consumers, here and there a few factories that depended on this coal for power. The present dispute strikes a blow straight at the great ducing and transportation concerns, nearly all of which have c recent years become users of soft coal only, because of its greater c ness and its superior steam-making qualities. Already the effe this dispute have become more widespread and more serious than of any previous strike. They have been manifested in all parts United States, on inland rail and water, on ocean, lake, and steamers from the north-west to the seaboard, and from Canada t Gulf of Mexico, and on the Mississippi and its tributaries throu the Ohio, Mississippi, and Missouri valleys. It is, we are assur one of the highest authorities, only those engaged in supplyin great producing and transporting interests of the country who can any real conception of the general substitution of soft for hard co steam-making purposes during the past ten years, of the extent to machinery and appliances have been adapted for soft coal, and great expense and loss of both fuel and motive power entailed b necessity of changing back again to anthracite. The seriousness situation as regards the ocean steamships has led contractors to ar for supplies of English and Nova Scotian coal, in order to prevent losses to themselves and something like a deadlock among the ste which are in the habit of obtaining their supplies for the home voyage at New York. The extensive use of American coal by fo steamers dates from the introduction of the enormously big an boats, which require so much coal as to make it desirabl them to take their return complement at New York inste carrying it with them from this side of the Atlantic. In years this improvement alone of the American coal trade gone up between 30 and 40 per cent., and last year about 160,00 were taken monthly. At the present moment almost every st running to New York from European ports—the White Sta Cunard lines excepted—is receiving foreign coal. The two excepted are supplied by the Pocahontas mines of Virginia, whe miners are not on strike. The average weekly requirement of minous coal is about 50,000 tons, and there is a shortage of 25,000 tons. Under ordinary circumstances fully three-four supplied by the Central Pennsylvania mines, while the rem comes from the Cumberland and Virginia regions. But the V mines, which are worked mainly by negro labour, have doubled output since the strike. They have been worked day and night, aided by those white men of the Cumberland mines who refused t the strikers, the negroes have continued to make up half of New normal requirements. There are about forty vessels constantly o berth at Norfolk, Va., loading coal for New York. But it is impossible to obtain the other 25,000 tons necessary to keep New in easy circumstances; and to minimise the trouble arising fro lack of bunker coal, contractors have been compelled to seek o markets. So far they have purchased about 150,000 tons, of whic third has already been delivered. American coal has advanced $2·60 to $3·25 per ton to $6 and more delivered alongside at New being an advance of about 100 per cent. in less than a month E coal, on the other hand, is being laid down at $3·75, and Scotian at $3·50, with 75 cents. duty. Of this price the steame getting $1·25 to $1·50 per ton freight, and at the figure stated tons of the best Cardiff coal have been ordered by one New York alone for delivery at that port during the first ten days of June. M Munn and Co. and Wigton and Co. have taken 40,000 tons spo immediate delivery, they are negotiating for more, conditional obtaining rapid delivery to meet the requirements of their stea lines on the Atlantic side. Numerous other firms might be ment Of course, in view of the present developments, many of the st sailing from this side are carrying enough for the round trip, a they are always able to do on emergency, and Messrs. Booth an

erpool, are sending supplies out on their own steamers for the that section of their fleet which trades between New York and American ports. The gas companies of New York, also, in o mitigate the evils arising from the strike, have purchased 1,000 Scotch coal from Glasgow, and are preparing to purchase more. ative gas coals are cheaper per ton even at present, but they only 23-candle power gas, while the British coal gives 36 candles. ought probable that the Government will rebate the duty of 75 er ton on all the foreign coal which is imported and sails out of ork in foreign bottoms, and, if this is done, the prices of Welsh, , and Nova Scotian coal will be very little, if at all, above that American article, which will make their importation possible ordinary circumstances for domestic consumption, provided a nance of the low rates of ocean freight could be counted upon.— *w Herald.*

SOCIETY OF CHEMICAL INDUSTRY.

MANCHESTER SECTION.

RESENTATION TO THE LOCAL HONORARY SECRETARY.

last meeting of the Session was held at the Victoria Hotel, Manchester, on Friday, June 1st, at 7 p.m., Ivan Levinstein, presiding. After the reading of the minutes an adjournment was o the rooms of the Chemical Club to make a presentation to norary secretary of the section, Mr. J. Carter Bell.

Levinstein, in making the presentation, said he had the pleasure enting Mr. Bell with some token of the real and true appreciation which he was held by the members of the Section, and also as nowledgment of the many services he had rendered to the and to the Manchester Chemical Club. It was now more than s since Sir Henry Roscoe, at one of the preliminary meetings the Technical School, said there was not sufficient material in ester to form a Section. Fortunately, his prophecy had been ng but realised. This result was due to the energetic action and f Mr. Bell. Through the agency of this Section, which he had luously cared for, the position and reputation of manufacturing

MR. J. CARTER BELL.

ts had been established. In addition to his services to the rs of the Section, however, he had done a great deal towards ing social enjoyment through the agency of the Manchester al Club. The success of this club was principally due to the d trouble he had spent on its behalf. It was for such reasons, ause the members and his friends so highly esteemed him as a h and earnest man, of good reputation in his professional career, ey wished to tender him an expression of their appreciation, hey did in the shape of the testimonial which he now had the of presenting to him.

estimonial took the shape of a handsome brass clock and vases, nted with a pair of ornamental lamps, and also a pair of elegant edestal oil lamps The clock is in the Louis Seize style, made throughout, with quarter-chime movement, striking the either gongs or bells. It stands 2 feet 6 inches high, is 16 wide, and 13 inches deep, and has been manufactured by W. nd Sons, of Manchester. The case, which is of polished art ork elaborately embossed and pierced, with dark-blue velvet und, and casket and wreath top, bears the following inscrip- "Presented to J. Carter Bell, Esq., A.R.S.M., F.I.C., by s of the Manchester Section of the Society of Chemical y, and of the Manchester Chemical Club, June 1st, 1894." The he clock is an 8-inch embossed and enamelled brass dial, with res in Arabic numerals, mounted on polished raised discs.

Bell, replying, said it was not easy on such occasions to say just e felt. He was most grateful, and felt much honoured. It was a great surprise, and he could only repeat that he was exceedingly grateful for the magnificent gift which he saw before him that evening for the first time. When Mr. Levinstein said that without him the Section and Club would never have existed, he (Mr. Levinstein) was very modest, inasmuch as he himself had first suggested the Chemical Club; while the founding of the Section was due to his friend Mr. George E. Davis, who had also been intimately connected with the parent society. The exact state of affairs, therefore, was that they had planted and he had watered. He could only add that the work he had done had been a labour of love. Of the thirty years he had been in Manchester, the last ten had been by far the most enjoyable and profitable, a fact which he attributed to the social relations which had arisen through the Chemical Club. In conclusion, he could only assure them that he thanked them exceedingly. (Applause.)

Mr. T. Tyrer (London) said, being a fellow student of Mr. Bell's, and hearing of the presentation, he had made a special effort to reach Manchester in time to see how his old friend stood the trying ordeal which he had heard he was to go through that evening. He had had a similar experience. On such occasions one's shoes generally felt too small, and if Mr. Bell had felt as uncomfortable as he had, he was sure he was glad to have replied and got it over. But joking apart, he could not help remarking that all those who had been students under Hofmann had been successful. The stamp of the methods of that great master, though administered in the meagre laboratory in Oxford-street, seemed to have been fixed upon his students; though the very fact filled them with a sense of humility, and a feeling of their shortcomings, when contrasted with such a man. He could not help recalling at such a time the effect which their great teacher had upon his students. He talked, acted, and lived as if he believed in the science to which he was so devoted. His lectures were demonstrations, and influenced the whole day's work. Ten minutes after the lecture he was in the laboratory. All his students saw him, and he had a word for all, from the juniors upwards. He gave every man work to do, and in such a manner as to amount to a personal request. Such influence nowadays was unfortunately not always to be found. He had been told that Hofmann's method of teaching was not the best, and the number of students was so limited. That might be so, but he would only add that he could not readily call to mind a modern laboratory where a professor had many more than 40 students to attend to personally. He then entertained the members with a few amusing anecdotal remarks on the student days and ways of Mr. Bell and himself, from which it appears that though the former was an adept wash-bottle-squirter, he was what he (Mr. Tyrer) might term a "good boy." (Laughter.) It was always pleasing to hear good of old fellow-students, and he was very glad to have been able to be present that evening to say "well done."

The ordinary business of the meeting was then proceeded with. After announcing that the motion of which Dr. Grossman had given notice at the last meeting had been withdrawn, the Chairman in opening the discussion on Mr. Naylor's paper, on "Comparative Results of Some Modern Systems of Sewage Treatment," said he thought it was desirable to avoid any reference to the ways in which analyses of sewage were obtained, in view of the contemplated action of the Mersey and Irwell Committee against the Salford Corporation. Sir Henry Roscoe, M.P., chemical adviser to that Committee, and Mr. Scudder, his assistant, had been invited to attend the meeting but found themselves unable to do so. Sir Henry wrote saying that it seemed to him that the materials incorporated in Mr. Naylor's paper were insufficient to base any definite proposals upon for the treatment of sewage; and both he and Mr. Scudder submitted that any conclusion to be satisfactory must be based on average, and not on single results; the latter sending a somewhat lengthy written criticism of Mr. Naylor's remarks upon the electrical process. Mr. Carter Bell said he was quite of the opinion that isolated results must not be taken as conclusive. Referring to the results of experiments at Salford, Mr. Bell incidentally stated that one company of experimenters had recently lost about £4,000., simply because they found that what succeeded on a small scale was not at all successful when tried on the large scale that was there required. Mr. Thomson, Mr. Grimshaw, and Mr. Tyrer (London), also joined in the discussion. Mr. Naylor replied briefly to the effect that he had given them such information as he had at his disposal, if it had been greater they should have had more. He did not profess to have exhausted the question, but he submitted that all his samples were taken under normal conditions. The last meeting of the session then terminated. There were about 30 members present.

INCREASE OF THE RIVER WEAVER TOLLS.—The trustees of the River Weaver have given notice of an alteration of their schedule of tolls, which will very seriously affect nearly all branches of trade in districts bordering on the navigation. Hitherto chemicals, timber, and, in fact, all articles of merchandise, except salt, have been liable to a tollage of eightpence per ton, but on the 18th instant this charge is to be increased to one shilling. Salt remains at a shilling.

THE MERSEY AND IRWELL JOINT COMMITTEE.

THE usual monthly meeting of this Committee was held at the offices, Mosley-street, Manchester, on Monday last, Alderman J. Thompson presiding. The report of the Chief Inspector (Mr. R. A. Tatton) showed satisfactory progress.

THE REPORT OF THE CONSULTING SUB-COMMITTEE

proposed to give Marple an extension of time for two months, which was adopted, to enable them to get land to comply with the requirements of the Local Government Board in this connection. The report also stated that the Sub-Committee had further considered the condition of the effluent from the Manchester (Davyhulme) works, and they find that the report of this month is again unsatisfactory. They therefore recommend that the Clerk be again instructed to write, drawing the attention of the Corporation of Manchester to this matter, and requesting to be furnished with a written reply as to what steps they propose to take to improve the effluent, and for this purpose they recommend that the consideration of the case be further adjourned for another month.

The Chairman explained that owing to the contractor being late, their filters were not ready, though they had been promised for June. When they were completed the effluent would be better.

Mr. Ald. Hopkinson, in supporting this statement, added that the work would be completed next month. He would point out that the Manchester effluent was purer than the Ship Canal water into which it was turned.

Mr. Killick said the Committee owed a duty not merely to its constituents but to the manufacturers. The time had come when they must deal with every Authority on the simple ground that it carried out the Act or that it failed to carry out the Act. The feeling of the Sub-committee was unanimous in favour of proceeding without any delay in the future against any Authority which did not turn out a satisfactory effluent. They would pay no attention to any private explanations given to the Sub-committee or to the Committee itself. They felt that they had no alternative but to use their powers to the utmost extent.

Dr. Hewitt asked if there was evidence in support of the statement which had been made that the Ship Canal water was more impure than the Manchester effluent turned into it.

Mr. Killick said he had no proof of the statement.

Dr. Hewitt said the Committee ought to have the information. He moved that the chief engineer consult with Sir Henry Roscoe and ascertain how much the water of the Ship Canal or the river above was worse than (according to chemical test) the Manchester effluent.

Mr. Alderman Hopkinson said the samples should be taken at the same place and at the same time.

Mr. Alderman Walton Smith said he thought the argument of Mr. Alderman Hopkinson was very weak, and he certainly would not like to take advantage of it. But it certainly was the fact that the Manchester Corporation were proceeding as quickly as possible. They had Mr. Scudder to assist them, and if the contractor had been up to time they would have been in a good position now. The Manchester Rivers Committee would not be satisfied till all difficulties were satisfactorily surmounted, and they were using every means to get at the best results as quickly as possible.

The Chairman endorsed the last remark.

Mr. Alderman Walmsley said that Mr. Killick, the chairman of the Consulting Sub-committee, had taken an absolutely logical position in the statement he had made. If they were to be fair and straight with manufacturers and Authorities all round, it was the only position they could take. At the same time, when they found that Manchester or Bolton or any other Authority was striving, and had been striving for some time, to the very best of their ability to do that which was right, and which was in consonance with the views of that Committee, they must bear that fact in mind, although their general policy was what Mr. Killick had declared it to be. Mr. Walmsley, referring to the Manchester Corporation, said it would have been much better if the advisers of the Committee had not also become the advisers of that Authority, whose action they might be called upon to challenge.

Dr. Hewitt said that at some future meeting of the Committee they would be bound to consider the fact stated by Mr. Alderman Walmsley —that officials of that Committee had acted as the paid servants of the Corporation. While their officials might advise an Authority it was hardly right that they should also be the employés of that Authority, whom they might have to make conform to the law. This matter had been mentioned to him by a number of people.

The Chairman said he thought everyone would admit that the Manchester Corporation had not been favoured by that Committee, but rather held up as an example. While he agreed with the broad sense of what had been said, he would explain how the peculiar circumstances had arisen. The City Surveyor of Manchester had a long illness, which had proved fatal. The illness occurred at a most critical time in the prosecution of the works. The Rivers Committee needed very important advice. They turned first of all to the engineer w advised them, and then to the chemist, who had to tell them treat the sewage itself. This state of things need not, of continue, but till they got a new city surveyor they must go o much as they had done.

The matter was adjourned for a month.

A letter on the condition of the Ship Canal water, sent Committee through Sir J. T. Hibbert from Lord Egerton of was read, and, after some discussion, Dr. Hewitt moved t clerk be instructed to write a letter to Lord Egerton stating t Committee were using every effort to enforce the powers give by Act of Parliament, and to send the chart of progress given Chief Inspector's report for April last. Time was an element matter, but the Committee were doing everything that could be

Mr. Alderman Walton Smith seconded the resolution, whi passed.

A letter was read from the clerk to the Leigh Local Boa regard to the condition of the effluent from the Board's sewage It stated that a scheme had been prepared for the treatment of on the Board's sewage farm. The plans had been forwarded Local Government Board, who had not yet intimated their a or disapproval of them. "I have to observe," said the clerk, "t delay in the execution of sewage works on the Board's sewag does not arise with the Leigh Local Board, but with the Government Board."

It was decided to send a copy of the letter to the Local Gove Board.

The orders of court for Macclesfield, Radcliffe, and Messrs. Waterhouse and Co. having expired, it was decided to take proc in each case.

The report of the Chemical Sub-Committee was adopted effect that extensions of time for two months were granted t firms and one month to seven. In two cases it was decided t application to the Local Government Board for permission to cute. Three other firms were invited to attend and show cau proceedings should not be taken in their cases.

The Committee then rose.

THE GAS SUPPLY OF LONDON.

THE quality of the gas supplied to the City of Lond the week ending May 19th, 1894, was good. Acc to the report of Mr. W. J. Dibdin, chemist and s tendent gas examiner to the London County Council, the tests m the various testing stations showed no deficiencies in illumi power. The following figures have been prepared fro report, and show the average composition of the gas calculat the mean test :—

Company.	No. of districts tested.	Illuminating power (in stand. sperm candles). Mean average.	Sulphur. Grains in 100 cb. ft. Mean average.	Ammonia Grains in 100 cb. ft. Mean average.	ph Hy
Gas Light and Coke Co.	14	16·28	9·49	0·38	
South Metropolitan Gas Co.	6	16·56	9·40	0·31	
Commercial Gas Co. ..	2	16·45	7·80	0·85	

The supply for week ending May 26th was also good. The prepared as above were :—

Company.	No. of districts tested.	Illuminating power (in stand. sperm candles). Mean average.	Sulphur. Grains in 100 cb. ft. Mean average.	Ammonia Grains in 100 cb. ft. Mean average.	ph hy
Gas Light and Coke Co.	14	16·25	9·19	0·41	
South Metropolitan Gas Co.	6	16·41	9·01	0·43	
Commercial Gas Co. ..	2	16·25	7·15	0·50	

The standard gas supplied by these companies should ha illuminating power of 16 sperm candles, and contain not more th grains of sulphur and 4 grains of ammonia per 100 cb. ft. of gas average of three days with a pressure of one inch between suns midnight, and six-tenths of an inch between midnight and sunset

PERSONAL.—We are informed that Mr. John Wyld, who h many years had charge of the chemical works at Frizinghall, b ing to the Bradford Corporation, has resigned the position, been appointed general manager of the extensive ammonia wo Birmingham belonging to Messrs. Brotherton and Co , of Leeds.

Reports of Companies.

MESSRS. FRASER AND CHALMERS, LTD.

port of the directors states that the operations of the American for the year 1893 resulted in a profit of $152,763·16. From 477·10 was written off for bad and doubtful accounts, and appropriated for interest to this company on the mortgage $1,250,000, thus leaving $21,286·06 as the net profits. This what more favourable result than that of the year 1892, and is ue to a reduction in the working expenses. It is now evident extension of the Chicago shops carried out in 1891 and 1892 egards time, unfortunate. When this work was undertaken was excellent, and it was expected that the money required furnished largely out of profits. The unforeseen fall in the silver, lead, and copper, by depressing these mining industries, amaged the business, and to defray the cost of these new works e necessary to use a portion of the working capital of the n company, and also for the English company to advance a , amounting in all, on December, 1893, to $364,343·57. The are of opinion that the gross assets shown on the balance-sheet nerican company are placed at figures above their real value. It is the results thus far obtained at Erith have been as satisfactory have been expected. The operations of the year show a profit 47. 14s. 1d. from all sources, which, with the profit of £6,501. rried over from 1892 gives a total credit of £18,148. 15s. 2d.; it has been deemed advisable to set aside the sum of £5,562. the beginning of a depreciation account, the remainder being n the balance-sheet. The financial considerations have led tors to advise that the company be reorganised with a double in view—first, to reduce the capital originally based on a con- business in Chicago when the company was formed, which at nt time does not exist, and by this means bringing the nominal ital nearer to its market value; second, to raise additional capital, thus placing the English company in a better position rk in the most economical way, and to enable it to promptly the large orders now in hand, and to accept the future larger which are confidently expected.

'S PARAFFIN LIGHT AND MINERAL OIL COMPANY, LIMITED.

ollowing is taken from the report of the directors for the year April 30, 1894, issued last week:—After expending £19,626. or maintenance and repairs of works, pits, and mines, there is n the year's operations of £26,003. 15s. 8d., to which add ce of last year, £3,322. 19s. 10d., making a total of £29,326. ; from which sum the following deductions fall to be made:— on mortgage debenture bonds, &c., £13,535. 11s. 5d.; on 6 per. cent. convertible debenture stock, £3,748. 7s. 10d., £12,042. 16s. 3d. From this balance it is recommended that . be written off against the "Pentland Retorts Account," ill leave £2,042. 16s. 3d. to be carried forward. While the the year's working shows an improvement over that of the year, the directors regret being unable to recommend a on the ordinary shares, due largely to serious mining labour. Early in June, 1893 the shale miners inaugurated a policy of s' working per week, which lasted till August, and materially production and increased the mining costs. And later on, coal strikes in England and Scotland interfered with the continuity ies of fuel, and much enhanced the prices paid for it. But tanding these disappointing drawbacks, the general costs have luced. The demand for the various products of the Company s satisfactory. Lower prices, however, have prevailed for oil, naphtha, solid paraffin, and candles, and these have more tralised an advance which took place in sulphate of ammonia. the past five years the whole of the Henderson retorts have perseded and replaced by Pentland patent retorts, together with plant, such as condensers, mains, and enlarged sulphate at a cost of £95,520. 13s. 4d., which amount has all been d, subject to the recommendation now made, the sum of 3. 13s. 10d. is written off out of profits. This necessary ex- e is now at an end, and the Company's refineries are being plied with material from their own plant and leaseholds, thus dispensing with purchased crude oil. Taking into account the ed life of the Pentland retorts and the cost of replacement, it computed that the sum of £5,000. per annum will amply for all retort renewals in future. Reductions in the valuation ock-in-trade have again been made, and the stores on hand at ks and mines continue to be entered at the contract rates at they were purchased. The Peebles oil gas-enriching process to in last report has developed with great rapidity. Installa- ve already been erected at a large number of gasworks with entire success. The system is so simple, being practically automatic, and so efficient and economical, that it is believed its general adoption is merely a question of time. The effect of this upon the shale industry, in the steady absorption of oils which have been frequently difficult of sale, will be very important. The works, plant, and stock-in-trade continue to be insured again loss by fire with leading insurance companies. The insurances are all effected at fairly moderate rates. During the past few years the Company have acquired several additional mineral leases, and as these have been in the course of gradual development, the directors were desirous to ascertain as accurately as possible their effect upon the mineral resources of the Company. Accordingly they instructed Mr. David Rankine, civil and mining engineer, to investigate and calculate the probable available supply from the whole of the Company's shale areas, old and new, leased or owned. Mr. Rankine's report, was, they would see, of a very highly satisfactory character. Enlarged powers to enable mortgage debenture stock to be issued in lieu of terminable bonds were, during the year, sanctioned by the Court of Session, and it is trusted that these will be the means of strengthening the Company's financial position. The Board think it well to state the following facts, which have a material bearing on the prospects of next year's business:—The important item of fuel has fallen appreciably in price; the yield of solid paraffin is larger than it has ever been, and that product is finding new outlets; while as regards sulphate of ammonia, the production has largely increased, and several thousand tons have already been sold for present and forward delivery at considerably enhanced values compared with those netted during the past year. From these sources alone, apart from causes of lesser effect, the Board are hopeful that the result of the current financial year's working will show a distinct improvement. The directors have to lament the death of their late chairman, Mr. Wm. M'Ewen, who had been a member of the Board since shortly after the formation of the Company, and during the whole of that time devoted himself zealously in furtherance of its interests. Mr. Robert M'Ewen has been appointed to a seat at the Board in room of his father. The directors retiring at this time are Mr. J. Heywood Collins, Mr. Hugh Brown, and Mr. Robert M'Ewen. Being eligible, they are willing to act if again elected. Mr. Alexander Moore, C.A., the auditor, retires, but is eligible for re-election.

LIQUID FUEL IN RUSSIA.

THE importance of "liquid fuel" for steam-raising purposes was set forth last week in a paper read before the Society of Arts by Mr. Stockfleth, for many years chief petroleum expert to the Nobel Company in their great Russian oil fields. Russia is not so well stocked in the matter of coal as Great Britain, and, naturally, attention has been more widely attracted to the use of liquid fuel in that country than at home. For fully 20 years petroleum residue, commonly known as "astatki," has been the universal fuel for the steamers on the Caspian Sea, while the locomotives on the railways of Southern Russia have been regularly fired with this valuable liquid combustible. To give some notion of the extent to which petroleum residue is burnt under Russian steamships, locomotives, and stationary boilers, it may be stated that in 1892 over 3,000,000 tons of it were transported from the wells at Baku to the Caspian ports and Astrakhan. No special construction of furnace is required. The oil is stored in tanks from which a pipe proceeds to the fire-box, and on emerging from a flat jet the oil is caught by another jet of steam, which sprays the liquid fuel in an even shower throughout the furnace. There is absolutely no smoke, dust, or ashes, and the labours of the firemen (most exhausting in the case of coal firing) are reduced to a minimum. The amount of fire can be regulated to a nicety by a tap on the oil-pipe, and considerable economy is effected in this way, as there is no occasion for loss of steam through safety-valves when the engines are temporarily stopped. Large savings as against coal are also effected by the convenience with which the liquid fuel can be stored, much valuable bunker space being saved in steamships. According to the author's estimate, one ton of astatki is equal to fully two tons of ordinary coal.

THE GLOSSOP PRIZE SEWAGE SCHEME.—At a recent meeting of the Glossop Town Council it was unanimously decided that out of the 13 schemes sent in to compete for the prize of £100 for the best and £50 for the second best offered by the Council, the first prize of £100 should be awarded to Messrs. Lomax and Lomax, Grosvenor Chambers, Deansgate, Manchester, who had adopted the *nom de plume* of "Values;" and that the second prize of £50 should be given to Mr. W. H. Radford, of Nottingham, who had competed under the motto of "Gravitation." Councillor Barnes said the cost of the scheme, roughly speaking, was estimated at 15s. to 25s. per head of the population.

ANSWERS TO CORRESPONDENTS.

Mooshic.—We have made inquiries, but cannot learn directly of the particulars you want. We should strongly advise you to address the High Commissioner for Canada (Sir C. Tupper, Bart., 17, Victoria-street, London, S.W.) who could tell you authoritatively. C. F. Rasmus, 3, Barnsbury-road, Islington, London, N., prepares trade lists for foreign countries; they might be of some assistance to you. Lastly, Wright's Australian, etc., Directory (published at Pearl-street, N.Y.) includes the districts you want.

T. C.—They have been put in hand.

J. G. M. (N.Y.)—We are trying to get you the information.

B. and Co.—We are obliged.

C. D. (Washington).—We have done so.

Stearine (Bombay).—You will not have to wait long now. Possibly this week.

Parliamentary Jottings.

ADHESIVE POSTAGE STAMPS.

In the House of Commons, last week, Mr. Henniker Heaton asked the Secretary to the Treasury whether there was any prospect of an arrangement being come to by the Treasury with the Post Office under which the public could be given the privilege of using half-penny adhesive postage stamps upon their own cards when sent through the post.

Sir J. Hibbert: A good deal of attention has been given to this matter, and a committee is now sitting to consider certain questions connected with the supply of stamps and postcards which, though not directly dealing with the matter to which the hon. member alludes, may have an important bearing upon it, and it is therefore necessary to await their report before coming to a decision.

THE EXPLOSION NUISANCE AT WALTHAM ABBEY.

Colonel Lockwood asked the Financial Secretary to the War Office whether he would instruct the superintendent of the Government Cordite Factory, at Waltham Abbey, to limit strictly the explosion of the settling pond so as to insure a *minimum* of inconvenience and alarm to the inhabitants of the town.

Mr. Woodall: The intervals of time at which these explosions are effected are limited; but the action of the waste nitro-glycerine is somewhat capricious, and an occasional loud explosion takes place. Measures are being taken to reduce this inconvenience as much as possible.

THE FLASH POINT OF MINERAL OILS.

In the House of Commons, on Tuesday, Mr. M'Cartan asked the Secretary of State for the Home Department whether his attention had been called to the inquest held in the city of Belfast on the body of Francis Conlan, who died from burns caused by the explosion of an oil lamp as he was turning down the wick before going to bed; and whether he was aware that the oil used in the lamp was an American oil known as the "Royal Daylight Oil," the flash point of which was about 82° Fahr. (Our experience has been nearer 76° Fahr, Ed. *C.T.J.*)

Mr. Asquith, in answer, stated: Accidents with oil lamps do not as a rule come under my notice, and in Ireland I have no sort of jurisdiction in regard to the administration of the Petroleum Acts. In this case the only knowledge I possess of the accident in question is derived from the depositions of the coroner's inquest furnished by the hon. member himself; and as to the flash point of this particular oil, I have no information whatever. Further, I am unable to say what is the *minimum* flash point of Scotch oils, or that of the oils supplied to the War Office. As has been before more than once explained, the question of the relative safety of oils of particular flash points is an extremely debatable one, and it is open to the gravest doubt whether the raising of the flash point would tend to put a stop to accidents of this kind. It is one of the many points connected with amended petroleum legislation which would have to be carefully considered by a committee, and I shall be glad, if it is possible, to constitute such a committee, but in the present state of public business I cannot hold out any hope that fresh legislation on this very large and difficult subject could be successfully undertaken this Session.

THE KAOLIN DEPOSITS OF FLORIDA.

THE chief kaolin deposits are situated in Lake County, and occur at intervals along and contiguous to Palaclakaha Creek, which flows a northerly course, emptying into Lake Harris, a distance of about 30 miles. The country is rather hilly, being one of the highest portions of Florida. So far as known these deposits appear to be sedimentary, resting upon the hard, micaceous sandstone lying above the eocene limestone. This sandstone is depressed in places, forming pockets some 25 to 50 acres in extent, which are filled with kaolin intermixed with a very fine white sand. On washing, the mass yields from 25 to 50 per cent. of kaolin.

The deposits are covered by an overburden from 2 to 6 feet in thickness, and vary in thickness from 15 to 30 feet. The area is estimated at from 1,000 to 1,500 acres. Practical tests in Europe and America show the clays to be equal to the English and French clays.

According to Mr. Memminger, there are at present two mining plants of small capacity shipping the kaolin to New Jersey and Ohio. Besides these two points it has been sent to leading potters throughout the United States in sufficient quantities to enable them to test it thoroughly, and without exception they have expressed a willingness to use it exclusively for the manufacture of the finer grades of ware so soon as they are assured it will be produced in large enough quantities to enable them to depend on a sufficient and steady supply.

The following is an analysis of the kaolin from these deposits: Silica, 46·11; alumina, 39·55; iron, 0·35; sulphur, 0·07; magnesia, 0·14; oxygen, water of combination, 13·78; total, 100·00.

Trade Notes.

A Glass Cloth Factory.—The inventor of glass cloths, Herman Hamesfahr, is about to establish a factory for the manufacture of glass fabrics at Toledo, Ohio. About two hundred employés, including women and girls will be engaged.

Aluminium Solder.—A solder for aluminium, forming the subject of a patent, has the following composition:—Zinc, 20 parts, tin 80. The articles to be soldered are cleansed and coated with a flux, made of stearic acid, 80 parts, chloride of zinc and chloride of tin each 20 parts. The solder is applied either with a "bit" or blow pipe.

The Preparation of Permanganates.—A patented process for the manufacture of permanganates of sodium or potassium from the corresponding manganates, for disinfecting and similar purposes, consists in acting on the manganates with carbon-dioxide in either a strong or dilute form. Sodium bicarbonate may also be used, in which case the salts are simply mixed and ground together.

Butter Adulteration Cases.—Under the Adulteration of Foods Act, Edward Russell, of Graham-street, Pimlico, was summoned recently by the St. George, Hanover-square, Vestry for selling butter mixed with 25 per cent of foreign fat. Mr. Rymer, who defended, said that the man sold it as he got it from a wholesale tradesman. Mr. de Rutzen fined him 40s. and costs, remarking that all the retailer had to do to protect himself was to obtain a warranty. In a similar prosecution against a Mr. Hurde, a coffee-house keeper, of Knightsbridge, a fine of £5. was imposed, the percentage of foreign fat being greater than in the last case. The magistrate said he believed it was perfectly true that the defendant had, as he said, been imposed upon himself, but the consumers must be protected. This was what the Act was passed for.

The Lanolin Prosecutions.—Mr. Justice Chitty has had before him in the Chancery Division the case of Benno Jaffé and Darmstaedter Lanolin Fabrik *v.* W. Hollins and Co., Limited, which came up as a short cause on a motion for judgment. It was an action for infringement of a patent for making a substance called "Lanolin," which has been the subject of considerable litigation. In this case Mr. Justice Romer gave judgment for plaintiffs in November last. Messrs. Hollins agreed to abide by that judgment, subject to appeal. The appeal was heard last April, with the result that the judgment of Justice Romer was affirmed. Counsel now asked for an order in terms of the judgment. This was agreed to by consent of the other side. The injunction will be allowed to continue against the defendants, restraining their use of the patent until such time as it may be declared invalid and the appeal to the House of Lords disposed of. Order by consent accordingly.

The Tables Turned.—Mr. Wilfrid Powell, British Consul at Stettin, mentions a curious fact in connection with the now well-known stamp "made in Germany." It seems that in Germany, English goods are supposed to be the best of goods; therefore, during the great festivals of Christmas and Easter, when the country folk flock into the cities to buy their presents and supplies for the coming holidays, it is the practice to send in articles of various kinds bearing the inscription required by our Merchandise Marks Act in the case of imported manufactures. It is true that "made in Germany" signifies that the articles are German; but as the peasants cannot read the words, they ask the seller, who is generally as ignorant as themselves, what language it is, and being told that it is English, they eagerly buy it as such. Last summer (says Mr. Powell) this story was corroborated by myself. Being at a farmhouse in the country, the good wife brought out her best china for coffee, and, with great pride pointed out to me that it was English. Alas for her cherished English ware; it bore the legend —"Made in Germany."

MADDER.—Messrs. Bunge, of Rotterdam, report a steady this commodity. The demand is rather weaker, but as yet th very few exceptions remain stationary. Fine crop, 35s. to cwt.; small, 27s. 6d. to 29s.; regrounds, 18s. to 22s. 6d.; s. 9d.

RTISEMENTS AND NATIONAL ECONOMICS.—The editor of a hian Journal, who was in London lately, called on Mr. Glad- d noticed on the study table the American rather than the editions of the American magazines. Mr. Gladstone explained . Gladstone took the English editions, but that he found it e to look over the American advertisements as an index of the economic status. An American paper comments:—"This is it of perception, which does credit to a statesmanlike outlook. ent economic conditions are certainly reflected in the stint of ng."

ADOPTION OF THE EIGHT-HOURS' DAY.—*Messrs. J. and F.* , the well-known firm of agricultural implement makers at Bed- e issued a notice to their workmen stating that, after careful ation, they had come to the conclusion that a working week of ht hours, instead of fifty-four, might probably prove a beneficial nent. In the hope that the experiment would be made a by the uniform diligence of the men, the firm propose after the ext month to reduce the hours to forty-eight a week, with the ages based on a week of fifty-four hours—that is, the men are no loss. There are about 500 men employed at these works, concession has never been asked for.—*Mr. Wm. Birch*, of the treet Iron Works, Lower Broughton, has also decided to adopt t hours system.

TANEOUS COMBUSTION OF A LAMP SHADE.—Writing to the Mons. A. Dupré announces that the shade of a duplex lamp ad not been lighted for two days, has been consumed in his resumably by spontaneous combustion. The shade was made year ago from so-called crinkled tissue paper, one white and ow sheet, gathered together on the upper part where it was the wire frame, where it formed a considerable bunch, and g thence over the frame below. On examination, the yellow as found to be coloured by chromate of lead, and this, no doubt, cause of the accident. Besides the yellow paper, pale green so contains chromate of lead, and would, no doubt be equally us, and possibly there are papers of other colours containing e material. It would be interesting to learn whether any ase has been observed before.

SCHORLEMMER MEMORIAL LABORATORY.—This building, now rising in Burlington-street, Manchester, as an attribute of ns College, will give ample opportunities for training and for in organic chemistry, and at the same time will so far relieve sure upon the old laboratories as to enable them to accom- at least for a time, all who wish to enter them, without over- g or other inconvenience. Unfortunately, the contributions by the friends of Professor Schorlemmer fall short by some of what is needed if the Council are to exercise a wise foresight ticipate the expansion which the past history of the College d as assured. It is not too much to hope that if the personal to a man of such scientific eminence is regarded as already paid, ortance of adequate practical teaching in chemistry for industrial will prompt many a generous gift towards the completion of g and so permanently valuable a memorial.

ATE OF SODA AND AMMONIUM SULPHATE.—The easterly re continuing to delay the arrival of nitrate ships from the West and stocks are being generally reduced. The price of spot however, is only 9s. 9d. per cwt., as buyers are acting cautiously of the approaching end of the season. The price on the Con- on the other hand, is stiffer, having advanced from 9s. to 10s. . Several transactions in summer shipment cargoes have been d at various rates up to 9s 1½d. per cwt., and a considerable s has been done in ordinary quality, autumn shipment, at 8s. 9d. The deliveries in May last year amounted to 107,000 tons, but ar they are likely to fall considerably short of this quantity. the first fortnight of the present month the deliveries from an ports reached 46,000 tons, and as the stocks at the end of eriod were only about 25,000 tons, the deliveries during the half of May must necessarily be small, for the arrivals during night ending last Saturday only amounted to 7,000 tons. The nts of nitrate for May are estimated at 60,200 tons for Europe ,500 for America, or a total of 73,700 tons, compared with a 71,100 tons in May, 1893. It is calculated that by June 1 there about 40,000 tons loading. There is a considerable difference n the present price of nitrate of soda and *sulphate of ammonia*, mer being £9. 15s. per ton and the latter about £14 The firm- the market for the latter article is attributed to the stocks being hands of few people, who can make dealers who have sold what id not possess pay what price they please.

THE MASON COLLEGE CHAIR OF CHEMISTRY.—We learn that on Wednesday last the Council of the Mason College, Birmingham, appointed Dr. Percy Frankland to the chair of chemistry and metallurgy, vacant through the resignation of Professor W. A. Tilden, and elected Mr. William M'Neile Dixon to succeed Professor Arber in the chair of English language and literature.

CARRIAGE OF COTTONSEED OIL IN BULK.—The Dutch tank steamer *Aco* has recently taken a cargo of 599,785 gallons of cottonseed oil from New Orleans to Rotterdam. This is the first cargo of cottonseed oil ever taken out of an American or any other port in bulk. The *Aco*, although sailing under the Dutch flag, belongs to an American corporation, the American Cotton Oil Company, and she was constructed especially to transport cottonseed oil to Europe in tanks. It is expected that the tank system will allow of a great saving in freight as well as the cost of barrels, as it is believed that the oil can be distributed to a very considerable extent in Europe by means of tank railway cars, which can be loaded direct from the receiving tanks at Rotterdam, into which the oil brought over by the steamer will be pumped. The size of the first cargo will be better appreciated when one reflects that the 599,758 gallons of oil taken out by the *Aco* represent fully 12,000 barrels. Petroleum and molasses are frequently transported in tank vessels, but this is the first time that the system has been applied to cottonseed oil.

WOOD PAVEMENT IN LONDON.—Some little time ago forty-three officers of metropolitan police were deputed to make certain observations concerning road traffic generally during the discharge of their daily duty in the busiest thoroughfares in the world. These observations extended over fifty days for twelve hours each day—namely, from 8 a.m. to 8 p.m.—and granite, asphalt, and wood pavement were considered. In one day of twelve hours no fewer than 12,366 horses and vehicles passed along Cheapside, and 5,350 along Cannon-street. During the fifty days upon which observations were taken 542 accidents took place on wood pavement, 719 on granite, and 1,066 on asphalt. From these figures it was estimated by an expert that a horse could travel 330 miles on wood pavement during the fifty days without meeting with an accident, 191 on granite, and 132 on asphalt; therefore the great superiority of wood pavement over all others—at least where horses are concerned—is at once apparent. Altogether, 1,054 falls were recorded, and an analysis of this number affords some curious information. On asphalt, 247 partial and 190 comple falls took place; on wood, 326 (only 39 complete falls). Roughly, for every fall on wood pavement four took place on granite and asphalt.—*London*.

CEMENT TESTING.—In a paper on this subject, recently read before the Society of Chemical Industry, the authors state that the analysis of cement is now almost as general as is the practice of testing it mechanically. The proper execution of the analysis needs certain precautions, notably the bestowal of particular attention upon the reagents, vessels, and filter papers used lest they should contribute small quantities of silica, alumina, and lime to the cement under analysis, and lead to small but cumulative errors. It may be said in conclusion, that neither by the analysis, nor by the mechanical testing of cement singly, can its quality be gauged with complete certainty. It is imperative that both chemical and mechanical *data* should be available before a positive pronouncement can be made. Although experience allows a valid opinion to be passed, even when such complete *data* are not forthcoming, yet the removal of that opinion into the ranks of ascertained facts can only be accomplished by determining both the composition of a cement and its leading physical properties. When both have been ascertained, the suitability and safety of a cement for any given purpose can be accurately adjudged.

THE LINDE PROCESS OF REFRIGERATION.—The steamer *Perthshire* which recently arrived in London, brought from Australia and New Zealand the largest cargo of refrigerated goods ever imported. The cargo consisted of 70,000 carcases of sheep, 9,000 haunches, 9,000 legs, about 550 tons of frozen beef, 750 cases of butter, 150 bags of bullocks' hearts, 150 bags of ox-tails and kidneys, and seven cases of oysters. The holds have sufficient capacity to have accommodated 1,200 more carcases of sheep. The shipment is an interesting one, as it is the first time that meat has been brought to this country from Australia or New Zealand by means of an ammonia machine; and the excellent quality of the goods, as certified by the consignees, is sufficient evidence of the success of the Linde machines by which the holds were cooled. The Linde British Refrigerating Company, who supplied the plant, are also fitting a similar plant on board the steamer *Banffshire*. The steamer *Buteshire*, now on her way home from the Colonies, is also fitted with the same plant. Besides these a number of other ships have been fitted, among them the steamers *Hellopes*, *Heraclides* and *Port Pirie*, and the steamer *Warrimoo* is now being fitted, the four latter ships having the brine pipe system. These plants are also made with a combination of the brine pipe system and the air circulation.

THE MINING STATISTICS OF LANCASHIRE.—The annual report of Mr. J. Gerrard, Her Majesty's Inspector, on the mines in No. 6 district (Manchester and Ireland) has been issued. During 1893 in the North and East Lancashire coalmines 38,791 persons were employed, being a decrease of 308 as compared with 1892 The quantity of coal produced was 7,603,755 tons, the decrease of 2,840,299 tons being due to the strike. In the same period 75,627 tons of stone and 755 tons of *rock salt* were raised. The price of coal in North and East Lancashire was 7s. 9·89d. per ton, as against 7s. 6½d. in 1892. For Ireland the figures were 8s. 10·17d. and 8s. 11d respectively. In North and East Lancashire 56 lives were lost by accident, being one for every 694 persons employed and one for every 137,492 tons raised. In Ireland the percentages were considerably higher. The majority of the accidents were due to falls of roofs The death-rate per 1,000,000 tons raised was 7·672 in the Lancashire district mentioned, as compared with 6·043, the average for the United Kingdom

PATENTS IN 1893.—The 11th report of the Comptroller-General of Patents, Designs, and Trade Marks for the year 1893 has just been issued. Sir Reader Lack states that the total number of patents applied for during the year was 25,120; the number of trade marks, 8,675; the gross receipts, £174,878; and the gross expenditure, £95,103. This summary exhibits an increase on the previous year of 951 under the head of patents, a decrease of 426 under trade marks, a decrease of £24,981. in receipts, and a decrease of £1,719. in expenditure. A new table is given showing the annual increase in the number of the applications and specifications received under the Act. From these and other figures it appears that the practice of filing a complete specification at the time of application is growing in favour, and that every year the number of applications accompanied by provisional specifications, which are allowed to lapse through omission to file complete specifications, becomes relatively larger. The reduction in the scale of renewal fees sanctioned in 1892 has caused a small increase in the number kept in force The number of applications for patents under the International Convention amounted to 174.

Market Reports.

TAR AND AMMONIA PRODUCTS.

Benzol is still cheaper, and 1s and 1s. 3d. for 90's and 50/90's respectively is now the price. Other products, however, are firm generally. Crude carbolic acid is now quoted 1s. 8d. at makers' works, and crystals remains firm at 6¾d. Crude naphtha is stationary at 5¾d., but 90% solvent has advanced a halfpenny to 1s. 3d. Pitch is firm at 29s. 6d. to 30s, f.o b. East Coast.

Sulphate of ammonia is firm: prices have about reached their maximum, and quotations are in consequence settling. The advisability of any further advance requires careful consideration on the part of producers, and the indications of forward business must be taken into account. Beckton is steady at £14 2s. 6d., London outside makes £14. 2s. 6d., Liverpool £14. 5s., Hull £14. 5s., and Leith £14. 5s. Forward business is chiefly of a speculative character.

MISCELLANEOUS CHEMICAL MARKET.

For the products of the alkali trade there is generally a better demand and more inquiry, but value of alkali all round is at a low point and without any immediate prospect of improvement. Alkali, 58%, is still ruling from £3 2s. 6d. to £3. 5s., bags, at makers' works. Caustic soda is without further change: current prices, subject to usual variations, being as reported last week, viz.:—f.o.b Tyne, 77%, £10. 15s.; f.o b. Liverpool, 74%, £9. 17s. 6d.; 70%, £8. 17s. 6d.; 60%, £7. 17s. 6d., cream, 60%, £7. 15s. nett, 10-ton lots and upwards. Bicarbonate of soda £6. 12s 6d. Soda crystals continue depressed at £2. 5s. to £2. 7s. 6d. per ton, makers' works. Bleaching powder is in active demand, and price firm at £7. 10s., softwoods, rails, and £8. to £8. 5s. per ton, hardwoods, f.o.b. Sulphur flat, at £3. 17s. 6d. Saltcake nominal at 17s. 6d. to 20s. Sulphate of copper is in good request at £15. 5s. to £15. 10s. per ton, f o.b. Nitrate of soda steady on the spot at 9s. 7½d. to 9s. 9d. per cwt. Potash, caustic and carbonate, continues in fair demand, and only moderate supply: prices being firmly maintained. Acetates of lime, brown and grey, have been receiving more attention, and there is a firmer market for these products. Acetic acid and other acetates are unchanged. White powdered arsenic is in active demand, and with continued short supply, prices are firm at £14. 5s to £14. 10s. nett, f.o.r. Garston. Carbolic acid crystals are firmer, in consequence of the advance in crude. Liquid carbolic acid is meantime without change. Yellow prussiate of potash is in better request, and price is firm from 10¼d. to 10½d. per lb. Sulphocyanides quiet. Ammonia and salts generally firm, with an advancing tendency. Iron sulphate and other salts are receiving more attention, but selling meantime at extremely low prices. Generally in chemicals there is little improvement in trade.

THE METAL MARKETS.

LONDON, WEDNESDAY.—Pig iron, dull: Scotch warrants c at 41s. 8½d., Middlesbrough 35s. 4½d. cash, and hematite 43s. Copper, firmer: Chili bars, G.O.B.'s and G.M.B.'s, closed at to £39. 5s. cash, and £39. 7s. 6d. to £39. 11s. 3d. three months. firm: Straits closed at £71. 7s. 6d. to £71. 15s. cash, and £71. 12 to £72. 2s. 6d. three months; Australian, £72.; English in £74. 10s. to £75. Lead, steady: Spanish, £9. 2s. 6d.; En £9. 3s. 9d. to £9. 7s. 6d. Silesian Spelter, ordinary, £15. 13s Nickel, 1s. 8d. Antimony, £33. Quicksilver: First hands, second hands, £5. 19s. *Copper shares*, steady: Cape, 1$\frac{3}{16}$ to Copiapo, 1⅝ to 1¾; Libiola, 2⅞ to 3⅛; Mason and Barry, 2 2⅝; Rio Tinto, 13$\frac{9}{16}$ to 13$\frac{11}{16}$; Tharsis, 4$\frac{7}{16}$ to 4$\frac{9}{16}$.

GLASGOW, WEDNESDAY.—Market firmer, with moderate busi Scotch done at 41s. 8d. and 41s. 8½d. cash, also at 41s. 10d. 41s. 10½d, one month; closing with buyers at 41s. 8½d. sellers ask 41s 9d. Cleveland done at 35s. 3d. and 35s. 4½d. closing with buyers at 35s. 4½d. cash, sellers ask 1d. more. Cu land hematite closes with buyers at 43s. 11d. cash, sellers ask Middlesbrough hematite closes with buyers at 43s. 4d. cash, s ask 43s. 5d.

WOLVERHAMPTON, WEDNESDAY.—Business to-day was q but a hopeful tone was induced by the better accounts from Cleve Manufactured iron sold in small consignments for immediate use sellers secured full rates. Marked bars £7. 10s, merchant sec £6. to £6. 10s., and common bars £5. 10s. Galvanising s (doubles) nominal at £6. 10s., and galvanised ditto £9. 15s. to hoops £6 10s., small rounds £6., and thin strip £5. 15s. moderate.

REPORT ON MANURE MATERIAL.

During the week there has been a moderate amount of bu doing, without much alteration in values. The quotation for 75 Florida rock remains 8d. per unit, c.f. and i. to Continental ports 7¾d. per unit is about the value to United Kingdom. Ther sellers of South Carolina River rock at 6¾d. per unit, and this is the value of Peace River cargoes, 1894 shipment. Contin phosphates are unchanged. Business has been done in River bones at £4. 12s. 6d. for large cargoes, but more money would to be paid for those of handy size. The position of East India meal is much stronger, and it is doubtful whether £4. 15s. pe would now be accepted for autumn shipment—£4. 17s. 6d. now a Nitrate of soda is quiet, but steady: on spot, the quotation fo quality is 9s. 10½d. per cwt., and for ordinary quality 9s. 9d. forward position is unchanged. There is nothing to repo miscellaneous manure material.

TYNE CHEMICAL REPORT.

TUESD

Chemicals quiet as far as new business is concerned, though ments continue heavy. Soda crystals, £2. 1s. per ton, gross w Bleach, £7. 10s. per ton. High-strength caustic, £10. 10s. to 15s. Sulphur steadier at £3. 17s. 6d. per ton.

Bleaching Powder, softs, £7. 10s. per ton, nett; hards, £7. 15s pe nett; caustic soda, 76/77%, £10. 10s. per ton, nett; do., 70% per ton, nett; recovered sulphur, 2 cwt. bags, £3. 17s. 6d. per ton, soda ash, 48%, £3. 12s. 6d. per ton, nett; do., 52%, £3. 16 per ton, nett; do, 56%, £4. per ton, nett; alkali, 36%, £2 per ton, nett; white alkali, 48%, £4. 10s per ton, nett; do., 50% 15s. per ton, nett; do., 52%, £5. 5s. per ton, nett; hyposulph soda, 5-7 cwt. casks, £5. per ton, nett; do., 1 cwt. kegs, £5 per ton, nett; silicate of soda, 75° Tw., £2. 17s. 6d. per ton, do., 100° Tw., £3. 12s. 6d per ton, nett; do., 140° Tw., per ton, nett; soda crystals, casks, £2. 1s. per gross weight; do., 2 cwt. bags, £2. 1s. per ton, chlorate of potash, 7½d. per lb., less 6%; pearl harde £3. per ton, nett; pure white sulphate of alumina, £4. 2s per ton, nett; blanc fixe, £7. 10s. per ton, nett; chloride of ba £7. 10s. per ton, nett; carbonate of alumina, £28. 15s. per nett; aluminate of soda, £33. 15s. per ton, nett; in 5 ton lots, 10s. per ton, nett.

SALT.—South Durham salt is still scarce at 10s. and 10s per ton, f.o.b. Tees.

COALS.—Market here is decidedly stronger, and there is business doing in the export line. Best Northumbrian steam, 10 and 10s. 6d.; second qualities, 9s 3d. and 9s. 6d.; small steam, 4 to 4s. 9d.; bunker coals, plentiful at 6s. 9d. and 7s.; do. screened, 9s. and 9s. 6d.; gas coals, 7s.; coke, in fair demand and 14s. per ton.

VERPOOL OIL AND COLOUR MARKET.

WEDNESDAY.

.—Palm oil is rather steadier, but quiet; small sales have been Bonny, Benin, and Old Calabar, at £20. 10s., and Lagos £21. nsit. Olive is steady, but business is restricted. Linseed m, but is also rather quiet, with Liverpool makes at 22s. 6d. er cwt., in export casks. Cottonseed has gone easier, but is tly steady at 21s. to 21s. 6d. per cwt. for Liverpool refined. il is steady, with good seconds Calcutta 2 3/16d., and first pressure 2 3/16d. to 2 1/8d. per lb. Tallow is firm, with an improved Rosin is in fairly good request, and prices are steady on the 3s. 9d. per cwt. for common. Spirits of turpentine still rule 4s. per cwt., with a moderate demand. Petroleum is quiet, dy, at 4¼d. to 5½d. for American, and 3⅝d. to 3¾d. per r Russian refined.

DURS are steady without alteration in prices. Oxfordshire, common, £10., medium, £12., best, £15.; ire, common, 40s.; medium, 50s., best, 60s.; Welsh, best, conds, 50s., and common, 18s.; Irish, Devonshire, 40s. to rench, J.C., 55s. to 60s.; M.C., 65s. to 67s. 6d. Umber: quiet; Devonshire, 50s. to 55s. White lead, and oxide unchanged. Venetian red, £6. 10s. to £10. Cobalt: d oxide, 9s. 9d.; black, 9s.; blue, 6s. Zaffres: No. 1, No. 2, 2s. 6d. Oxide of iron: Common, £6.; medium, finest, £20. Zinc oxide, £23. to £25.

LL PAINT, OIL, AND COLOUR REPORT.

TUESDAY.

.—The continued wet weather and the labour market in a l agitation, has a very depressing influence upon all business, business being very difficult to work owing to the unsatisfactory the Exchange. All oils are flat, with a tendency of lower The imports of seed during the week have been unimportant, exception of an arrival of 9,568 qrs. of rapeseed. The present up to date of this year, compared with same time a year ago linseed 183,792 qrs., against 135,205 qrs.; rapeseed 54,363 ainst 15,952 qrs.; cottonseed 109,059 tons, against 102,769 tons; 9,724 casks, against 5,588 casks; rape oil 3,608 casks, against sks; oil cakes 9,136 tons, against 8,932 tons; tallow 8,460 against 12,634 cwts.; turpentine 4,352 barrels, against 3,532 Linseed oil has been quiet on the spot, and closes inactive, steady at 20s. 9d. naked spot, 20s. 4½d. month. In forward s there has been more inquiry; July-August sold at 19s. 9d., 9d. paid for September-December. The export for the week n 2,620 cwts. Refined cotton oil is 5s. per ton lower, closing lers at 19s. naked spot; June-August, 19s. 1½d.; November- s 9d. Export for the week of refined 2,280 cwts. Olive oil e oil remain unchanged, the latter very flat and not much in . Castor oil, first pressure, 2¼d. to 2½d. per lb. Cod oil £19. per ton. Sod oil for tanners, curriers, etc., from £16. per ton. Pine oil 5s. 9d. per cwt. naked. Engine and oils from 1s to 2s per gallon.

ES.—Linseed cakes quiet but not lower, the quantity of linseed ing very small; 95% pure £6. 15s. to £7. per ton; Russian, otton cakes: Best makes steady at £4. 5s. to £4. 7s. 6d.; £4. Rape cakes: East India, £4. 10s.; Black Sea, £3. 5s.; £5.; round feed cakes, £6. 5s.

TS continue in good demand. Prices remain unchanged, and enetian red dry, from £3. 10s. per ton; blue black, £4. 5s.; mineral black, £3. 15s. Yellow ochre from £3 10s. per ton. nd red leads unchanged. Ready mixed paints in tins, £26. Common black varnish £5. 10s. per ton. Oak varnish from er gallon.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, TUESDAY.

eeling in the general chemical market is decidedly weaker, and ay be said to have given way, although the "Union" makers y adhere to the old quotations. It is known that makers out- he Union have been stimulating business by concessions, and values must in consequence be marked down slightly in one or es. Caustic soda is very slow of movement, and can be done han the figures recently ruling. Soda crystals also can be cheaper. Altogether, the outlook must be held as unpromising. is a slightly improved condition in the market for mineral oils affins. It is no more than a shade of difference, however, and prices are not relieved in any way. Russian refined oils are dustriously pushed in the direction of this market, and at prices re not only low but suspiciously low. Dealers and consumers becoming more and more alive to the dangerous character of these importations, because of their low flash-point as compared with the very much safer home-made Scotch oils.

A welome vigour still continues to characterise the market for sulphate of ammonia, which is scarce and higher in price. Prompt Leith has fetched £14. 5s., and a further rise is expected. Forward done yesterday (October-March) at £14

Chief prices current are:—Soda crystals £2. to £2. 2s. 6d. nett, Tyne; soda ash 48/52° £3. 12s. 6d. to £3. 17s. 6d. nett, Tyne; white alkali 48/52° £4 10s to £5. 5s. nett, Tyne; alum in lump £5. 10s. nett, Glasgow; caustic soda, white, 74° £9. 17s. 6d., 70/72° £8. 17s. 6d., 60/62° £8., and cream 60/62° £7. 15s., all nett, Liverpool; bleaching powder £7. 10s., nett, Tyne; saltcake, 17s. 6d.; borax, English refined, £22. 10s, and boracic acid, £32. 10s. nett, Glasgow; bicarbonate of soda, 5-cwt. casks, £6. 10s., and 1 cwt. casks £6. 15s. nett, Liverpool; bichromate of potash, 4½d. nett, for Scotch and English deliveries (for export, 4¼d. nett, f.o.b. Glasgow); bichromate of soda, 3¾d. nett, for Scotch and English deliveries (for export, 3½d. nett, f.o.b. Glasgow); chlorate of potash, 7¼d. less 5%, Liverpool; nitrate of soda, 10s.; sulphate of ammonia, £14. 2s. 6d. prompt, f.o.b. Leith; salammoniac, first and second white, £39. and £37. nett, any port; sulphate of copper, £15. 10s., less 5% Liverpool; paraffin scale, hard 1 7/8d. soft 1 7/8d. to 2d. per lb.; paraffin wax 120° semi-refined 2 3/8d. to 2½d. paraffin spirit (naphtha), 3½d. to 4d. per gallon; paraffin oil (burning), standard No. 1 grade, 5d. at works, for Scotch buyers (English sales, ½d to ¾d. lower); ditto (lubricating) 865° £3. 10s. to £3. 12s. 6d.; 885° £4. to £4. 15s., and 890/895° £4. 15s. to £5. 10s. Week's imports of raw sugar at Greenock were *nil.*

THE COPPER MARKET.

Messrs. Harrington and Co., in their fortnightly report, dated Liverpool, June 1st, 1894, state:—

Chili Charters for the second half of May are advised as 1,400 tons, tons, which with 450 tons for the previous fortnight makes 1,850 tons for the month. The total since 31st December is 8,250 tons, against 8,000 tons same time last year. Since our last the market for G O B's and G.M.B's has been irregular, and about 5,000 tons have changed hands. Values opened at £39. 10s. cash and £39. 18s. 9d. three months on the 17th ult., and declined till £38 17s 6d. and £39. 6s. 3d. respectively was touched on the 21st. There was then a reaction, and the market recovered by the 24th to £39 8s 9d. cash and £39. 15s. three months, since which the advance has not been maintained, and we close dull at £38 13s. 9d. cash and £39 three months. Good quality furnace material is scarce, particularly Argentiferous copper matte The Calumet and Hecla Company are reported to have sold 8/10,000 tons Lake copper to American consumers for delivery July to October next., at 9 cents per lb. (equal to £41. 6s. 3d. per ton nett), which is the lowest price on record. This report caused the decline in values to-day. We are sorry to report the death of Mr. Doetsch, one of the directors of the Rio Tinto Mines, from typhoid fever. The total stocks in Liverpool, Swansea, London, and Havre are 43,780 tons, against 43,159 tons on the 16th ult., showing an increase of 621 tons for the fortnight. The figures for the previous fortnight showed a decrease of 47 tons, making an increase for the month of 574 tons. The stocks include about 700 tons of copper sold, but not yet delivered to smelters. The visible supply for the fortnight is 47,615 tons, against 46,283 tons on the 16th May, showing an increase of 1,332 tons. The month's figures show an increase of 810 tons. The stock of English G.M.B.'s in Liverpool remains at 2 tons. Refined and manufactured sorts are dull, quotations being:—Tough cake, £40. 15s. to £41. 5s.; best select, £41. 15s. to £42. 5s.; Indian sheets, £45. 10s. to £46; strong sheets, £50.; and yellow metal sheets, 4d. to 4 1/16d. per lb.

The sales of furnace material comprise—At Liverpool: 200 tons Spanish ore, at 7s.; 125 tons Mexican ore, at 7s.; 50 tons Portuguese precipitate, at 7s. 10½d.; 22 tons Spanish precipitate, at 7s. 9d. per unit; and 65 tons Argentiferous Chili Regulus, on private terms. At Swansea: 730 tons Namaqua ore, ex *Glanrafon*, on private terms.

New Companies.

Southall Brick and Terra Cotta Company, Limited.—CAPITAL £3,000., in shares of £10. each. This company has been formed to carry on the Durden Brick Field, Southall, and to manufacture bricks, tiles, and pottery in general.

Brading Portland Cement and Lime Company, Limited.—CAPITAL £5,000., in £10. shares. This company has been formed to take over the Brading Portland Cement Works, and to trade as manufacturers of cement, lime, and whiting.

Sewage and Effluent Water Filtration Co., Limited.—Capital £2,000., in £25. shares. This Company has been formed to acquire the patent of S. R. Lowcock for improvements in filtration, and to work this and any other patent to be acquired.

William Gossage and Co, Limited.—Capital £426,000., in £10. shares, of which 35 000 are Five per cent. Preference Shares. This Company has been formed to enter into an agreement and carry on the manufacture of soap, candles, glycerine, alkali, dyes, paints and colours, etc. The subscribers to the Memorandum of Association are:— F. H. Gossage, Camp-hill, Wootton, Liverpool, soap maker, 1 share; T. S. Timmis, Cleveley, Allerton, Liverpool, soap maker, 1; W. W. Gossage, 13, Harquavis-road, Sefton Park, Liverpool, soap maker, 1; H. S. Timmis, Widnes, Lancasnire, soap maker, 1; E. F. Gossage, 31, Marmion-road, Sefton Park, Liverpool, soap maker, 1; R. Cooke, 6, Alexandra-drive, Sefton Park, Liverpool, manager, 1; A. Thorpe, Farnworth, Widnes, buyer, 1.

E. Wallace and Co, Limited.—Capital £1,000, in shares of £1. each. This Company has been formed to act as agents for manufacturers of chemical, mechanical, and electrical goods and appliances. The subscribers to the Memorandum of Association are: A. R. Green, Kinnear's Hotel, Cheapside, E C, manager, 1 share; M. Smith, 58, Bread-street, E.C., electrical engineer, 1; W. H. Berry, 58, Bread-street, E.C., electrician; W. Young, 58, Bread-street, E.C., accountant, 1; W. Hayward, 18 and 19, Giltspur-street, E.C., carver, etc., 1; W. R. Long, 88, Queen Victoria-street, E.C., accountant, 1; H. W. Andrew, Frobisher-road, Hornsey N., shorthand writer, 1.

John Nicholson and Sons, Limited.—Capital £120,000, in shares of £100. each. This company has been formed to take over as a going concern the business of chemical manufacturers now carried on at Hunslet, Leeds, and to trade as chemical manufacturers and dry-salters. The subscribers to the Memorandum of Association are:— J. Carr Nicholson, Moorfield House, Headingley, Leeds, chemical manufacturer, 1; J. Nicholson, Wheatfield Lodge, Headingley, Leeds, chemical manufacturer, 1; M. A. Nicholson, Moorfield House, Headingley, Leeds, married woman, 1; E. Nicholson, Wheatfield Lodge, Headingley, Leeds, married woman, 1; J. A. Nicholson, Moorfield House, Headingley, Leeds, spinster, 1; J. M. Nicholson, Wheatfield Lodge, Headingley, Leeds, manufacturer, 1; A. E. Nicholson, Moorfield House, Headingley, Leeds, chemical manufacturer, 1.

The Patent List.

This list is compiled from Official sources in the Manch Technical Laboratory, under the immediate supervision George E. Davis and Alfred R. Davis, who report professio upon the value of Chemical Patents.

APPLICATIONS FOR ENGLISH LETTERS PATENT.

Enamelling and Facing Bricks. J. Parr, A. Marston, and A. Carr. May 21.

Producing an Alloy of Tin with the Alkaline Metals or Earths. C. Vautin. 9,878. May 21.

Improved Manufacture of Varnish. L. L. B. Meyer. 9,883. May 21.

Improvements in Pulverising and Separating Machinery. C. W. a H. Kitto. 9,884. May 21.

Separating Gases. W. P. Thompson. 9,913. May 22.

Manufacturing Porous Bricks. H. Maurer. 9,948. May 22.

Electrolytic Apparatus. T. Craney. 9,949. May 22

Evaporating Apparatus. ,, 9,958. ,,

,, ,, ,, 9,959. ,,

Process and Apparatus for the Manufacture of Sodium Bicarbo T. Craney. 9,979. May 22.

Apparatus for the Treatment of Sewage. W. D. Scott-Moncrieff. May 23.

Compressed Fuel. R. Fegan 10,029. May 23.

Improvements in Furnaces for Burning Hydrocarbons. F. Wood Rhyce. 10,141. May 25.

Production of Metallic Sodium and Potassium from their Salts. C. Vautin. 10,197. May 25.

Gazette Notices.

PARTNERSHIP DISSOLVED.

C. L. Casson and W. H. Casson, paint and colour manufacturers, Live under the style of Casson and Co.

BANKRUPTCY ACTS, 1883 and 1890.

Receiving Order.

Birch, George William (trading as Huskisson and Co.), Birmingham colour, and varnish manufacturer.

IMPORTS OF CHEMICAL PRODUCTS

AT

THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending May 26th.

Acetic Acid—

Germany,	8 pkgs.	Domeier & Co.
Holland,	149	Beresford & Co.

Alkali—

France,	340 c.	Arnati & Harrison
Germany,	420	Pillow, Jones & Co.
,,	21 pkgs.	L. & I. D. Jt. Co.

Alum—

Germany,	3 pkgs.	H. Lambert

Aluminium—

Belgium,	£257	Major & Field

Amyl Acetate—

Germany,	5 pkgs.	F. Stahlschmidt & Co.

Antimony Ore—

Japan,	100 t.	J. Swire & Sons

Asbestos—

U. States,	£35	W. Byford
Canada,	290	,,
France,	24	Mory & Co.

Barium Chloride—

Holland,	22 pkgs.	Petri Bros.

Barytes—

Holland,	46 cks.	J. Owen
,,	6	J. L. Lyon & Co.
Belgium,	6	,,
,,	55	O'Hara & Hoar
Germany,	19	T. H. Willoughby

Binitro Toluol

Holland,	12 pkgs.	J. Owen

Bleaching Soda—

Germany,	34 c.	H Lambert

Boracic Acid—

Germany,	16 pkgs.	F. Boehm

Caoutchouc—

Germany,	22 c.	Wallace Brs
,,	6	Clarke & Smith
Aden,	1	,,
,,	7	L. & I. D. Jt. Co.
Zanzibar,	15	,,
Natal,	46	,,
P. E. Africa,	20	,,
Rangoon,	634	,,
,,	98	Middleton S. S. Wf Co.
P. E. Africa,	10	Wallace Brs.
Portugal,	360	Prop. Bull Wf.
E. Indies,	163	,,
,,	102	E. Boustead & Co.

Castor Oil—

Italy,	25 cs.	G. S. N. Co.
,,	25	City Coml. Wf., Ld.
France,	30 pkgs.	F. Boehm
,,	29 brls. 8 cks.	Beresford & Co.
,,	31	Lucas & Spencer's Wf., Ld.
Belgium,	30	Burrell & Co.
E. Indies,	239 cks.	Ross & Deering
,,	148	Cayzer, Irvine & Co.
,,	10 cs.	H. Grey, junr.
Italy,	10	Beresford & Co

Caustic Potash—

France,	20 drs.	Carey & Sons
Canada,	97 c	Charles & Fox

Chemicals *(otherwise undescribed)*

Germany,	13 cs. 71 pkgs.	A. & M. Zimmermann
,,	40 cks. 28	T. H. Lee
,,	4 pkgs.	L. & I. D. Jt. Co.
Holland,	9	Kaltenbach & Schmitz
Germany,	20	Phillipps & Graves
U. States,	3	Pickford & Co.
France,	25	H. Johnson & Sons

Cream of Tartar—

France,	10 pkgs.	M. Ashby, Ld.
,,	6	F. C. Devon & Co.
,,	9	B. & F. Wf. Co.
Spain,	10	,,
,,	2	Evans, Lescher & Co.
,,	15	W. C. Bacon & Co.

Dextrine—

Germany,	100 pkgs.	W. Balchin

Dyestuffs—

Annatto

E. Indies,	8 pkgs.	L. & I. D. Jt. Co.
Ceylon,	7	,,

Argols

France,	2 pkgs.	B. & F. Wf. Co.
Italy,	40	Thames S. T. & L. Co, Ld

Cutch

Rangoon,	1,200 pkgs.	T. Ronaldson & Co.
,,	30	Beresford & Co.
,,	560	A. Howden & Co.
,,	1,250	Leach & Co.
,,	1,483	Arracan Co., Ld.
E. Indies,	400	Anderson, Weber & Smith

Divi Divi

E. Indies,	158 pkgs.	Culverwell, Brooks & Co.

Extracts

France,	120 pkgs.	Prop. Chmblu.'s Wf.
,,	82	T. H. Lee
Denmark,	42	Bailey & Leetham
Holland,	6	R. Baelz & Co.
France,	48	L. J. Levinstein & Sons
Denmark,	35	J. Forsey
,,	1 ck.	Sorensen & Co

Gambier

E. Indies,	84 pkgs.	R. & J. Henderson
,,	636	S. Barrow & Bro., Ld.
,,	508	E. Boustead & Co.
,,	425	N. S. S. Co.
,,	1,135	J. Swire & Sons
,,	204	Ross & Deering
Roumania,	400	,,
U. States,	20	E. Boustead & Co.

Indigo

E. Indies,	3 chts.	Eales & Rutherford
,,	58	Ross & De
,,	26	R. von Glehn &
,,	11	Benecke, Sonchay
,,	20	Arbuthnot, Lath
Germany,	8	L. & I. D. J
,,	8	H. Las

Madder

Holland,	4 pkgs.	Will Torrey

Myrabolams

E. Indies,	2,397 pkgs	L. & I. D. J
,,	4,062	W. Sh
,,	1,363	A. H

Saffron

Spain,	1 pkge.	B. & N. W

Tanners' Bark

Adelaide,	50 t.	Devitt &
Belgium,	20	Leach
Natal,	24	A. & W. N
,,	15	Anning &

Turmeric

E. Indies,	40 pkgs.	Hoare, W
,,	200	R. G. Hall
,,	140	Lyall, Anderson
,,	132	Clyde
Cochin,	160	,,
,,	411	Union I
Spain,	75	City Coml. W

Dyestuffs *(otherwise undescr*

Ceylon,	4 pkgs.	Hoare, W

Farina—

Germany,	20 pkgs.	M. I

Glucose—

Belgium,	250 pkgs. 500 c.	Sou
,,	125 46 c	A. Fern
Germany,	200	200 J. Barber
France,	140	140 Barrett, T

tes, 600 601 R. G. Hall & Co.
150 900 Union L. Co., Ltd.
500 500 Trier, Meyer, & Co.
1,200 1,200 Thames S. T & L. Co.
500 500 Beresford & Co.
500 500 Fellows, Morton & Co.
30 286 L. Sutro & Co.
500 500 G. Hedges & Son
100 550 Pillow, Jones, & Co.
160 740 L. Norman & Co., Ltd.
800 810 Pearce & Pelly
300 1,600 H. W. Peabody & Co.

Acetate—
ny, 21 pkgs. F. Boehm
nese Ore—
y, 36 t. Harrold Brs.
e—
ne, 15 t. Houlder Brs. & Co.
ny, 39 F. W. Berk & Co., Ltd.
ies, 12 G. H. Wilson & Sons
200 F. J. Cornwell, Son, & Co.
290 A. Hunter & Co.
90 Fox, Roy, & Co.
, 30 J. Burnett & Sons
92 Odams Chemical Manure Co.

tes, £50 L. & I D. Jt. Co.
30 W. M. Smith & Sons
10 "
ies, 173 J. Mitchell
528 W. M. Smith & Sons
hal'ne—
ny, 5 pkgs Craven & Co.
—
ny, 25 pkgs. Phillipps & Graves
, 65 brls. D Storer & Sons
50 Beresford & Co.
n Scale—
tes, 1,020 brls. Anglo-American Oil Co.
n Wax—
tes, 200 brls. H. Hill & Sons
on, 505 pkgs. "
hate Rock—
lia, 6 t. Houlder Brs. & Co.
m, 150 Miller & Johnson
72 Sawer, Sons, & Co.
255 Lawes Manure Co.
, 277 A. Hunter & Co.
ago—
, 264 brls. R. G. Hall & Co
132 Lucas & Spencer's Wf.
107 J. Forsey
333 J. Thredder, Son, & Co.
—
a, 85 c. Charles & Fox
, 35 Petri Brs.
ium Carbonate—
, 4 cks. Spies Brs. & Co.
ium Oxymuriate—
, 200 pkgs. G. Boor & Co.
e Stone—
13 t. B. Gallaway
—
al, 1,130 t. Mason & Barry
—
es, 450 bgs. F & S. Chiesman & Co.
18 "
stos—
y, 20 pkgs. F. Boehm
re—
ny, 112 brls P. Hecker & Co.
4 Petri Brs.
es, 655 bgs. Co-op. Lightrge. Association
land, 25 Seaward Brs. & Co.
—
n, 40 pkgs. Arnati & Harrison
40 F. Rosenthal & Co.
121 T. H. Lee
636 Prop. Scott's Wf.
20 Leach & Co.
d, 400 Little & Johnston
400 A. Starck
80 Phillipps & Graves
y, 60 "
260 Horne & Co.
es, 730 C. Tennant, Sons, & Co.

Stearine—
France, 100 pkgs Bennett S S. Co.
" 100 bgs. Walbaum & Tosetti
" 240 G. Boor & Co.
" 150 Beresford & Co.
Sulphur—
Italy, 5 t. C. J. Capes & Co.
Belgium, 6 "
Tar—
Holland, 6 pkgs. J. Owen
Tar Oil—
Belgium, 18 dms. D. C. Thomas & Sons
Tartar Emetic—
Germany, 6 pkgs Domeier & Co.
Tartaric Acid—
Holland, 8 pkgs. Kirkpatrick & Co.
" 34 B. & F. Wf. Co., Ltd.
Turpentine—
France, 15 cks T. Trapp & Sons
Ultramarine—
Holland, 5 cs. Hernu, Peron, & Co.
" 14 Haeffner, Hilpert, & Co
" 28 pkgs. Thames S. T. & L. Co., Ltd.
Belgium, 20 cs. H. Kohnstamm
" 20 brls. Magee, Taylor, & Co.
Varnish—
U. States, 10 pkgs. Beck & Pollitzer
" 49 H. Johnson & Sons
Vermilion—
Hong Kong, 2 pkgs. R. Warner & Co.
White Lead—
Belgium, 12 brls. L. Sitzler
" 15 cks. Stobbs, Wilson & Co.
Germany, 32 M. Ashby, Ld.
" 10 Petri Brs
" 27 W. A. Rose & Co.
" 60 Thames S. T. & L. Co., Ld.
Holland, 28 Colthurst & Harding
Wood Pulp —
Norway, 50 pkgs. S. E. R. Co.
" 300 J. Dickinson & Co.
" 406 W. G. Taylor & Co.
" 300 Henderson, Craig & Co.
Holland, 41 "
Sweden, 328 "
Germany, 125 W. G. Jacobs
Denmark, 280 G. F. Green & Co.
Zinc Oxide—
Holland, 105 brls. M Ashby, Ld.
Germany, 50 "
" 50 cs. J. Matton
Holland, 500 cks. Soundy & Sons
" 50 pkgs. Prprs. Dowgate Dk.

LIVERPOOL.

Week ending May 24th.

Acetate of Lime—
New York, 116 bgs.
Asbestos—
Antwerp, 1 cs.
Montreal, 336 bgs.
Barytes—
Antwerp, 55 cks. 120 bgs.
Bone Ash—
Kingston, 16 bgs. M. Bell
Bone Meal—
Calcutta, 2,238 bgs.
Bombay, 2,888
Borate of Lime—
Antofagasta, 749 sks.
Castor Oil—
Calcutta, 580 cs.
" 570 Ralli Brs.
Colours—
Antwerp, 8 cks. 5 cs. J. T. Fletcher & Co.
Rotterdam, 4
Dyestuffs—
Annatto
Bordeaux, 7 cks. R. J. Francis & Co.
Cutch
New York, 508 bls.
Extracts
New York, 10 brls. T. Atkin & Co.
" 20 pkgs.
" 219 brls. Boutcher, Bacon & Co.
Philadelphia, 100 bxs.
Fustic
Savanilla, 1,963 ps. G. H. Muller & Co.
Colon, 1,083 ps. Widow Duranty & Son
Logwood
Kingston, Jam ,368 t.
Myrabolams
Bombay 1,335 bgs.
Orchella
Lisbon, 577 bls. 131 bgs.
Turmeric
Calcutta, 4 bgs.
Farina—
Antwerp, 40 bgs.
Glucose—
New York, 5 brls P. Haggeteris
" 278
Rouen, 60 bgs. Co-op. W'sale Society, Ld.
Limestone—
Antwerp, 2 cs. J. T. Fletcher & Co.
" 1 crt.
Manganese Ore—
Coquimbo, 1,200 t.
Manure—
Bordeaux, 5 cks.
Ochre—
Rouen, 103 cks. Co-op. W'sale Society, Ld.
Paraffin Scale—
New York, 1,153 brls. Standard Oil Co.
Philadelphia, 85
Phosphates—
Ghent, 500 bgs.
Potash—
Rouen, 59 cks. Co-op. W'sale Society, Ld.
Montreal, 15 brls.
Dunkirk, 40 dms.
Pyrites—
Huelva, 3,049 t. Matheson & Co.
" 3,582
Rosin—
New York, 500 brls.
Savannah, Ja. 7,300
Salt—
Boston, 5 bgs. C. W. Page
Saltpetre—
Calcutta, 368 bgs.
Rotterdam, 170
Soapstone—
Bordeaux, 5 cs. G. G. Blackwell
Starch—
New York, 1 brl. W. Clark & Son
Antwerp, 100 cs. J. T Fletcher & Co.
" 44
Rotterdam, 55
Stearine—
Rotterdam, 12 bls.
Tallow—
Boston, 75 tcs. J. Mackee & Co.
New York, 80 hds.
B. Ayres, 10 pps. Las Cabizas Estancio Co.
" 200
Tartar—
Bordeaux, 11 cks.
Tartaric Acid—
Rotterdam, 7 cks.
Tincal—
Calcutta, 552 bgs.
Ultramarine—
Hamburg, 4 cks
Rotterdam, 6 10 cs.
Waste Salt—
Dunkirk, 100 bgs.
Zinc Oxide—
Antwerp, 35 brls.
Rotterdam, 35 cks.
Zinc Skimmings—
New York, 36 brls. 1 hd
Zinc White—
Hamburg, 5 cks.
Rotterdam, 2

MANCHESTER.

Week ending May 26th.

Alum—
Rotterdam, 14 cks.
Alumina Sulphate—
Rotterdam, 32 cks. Simpson, Howden, & Co.
Antimony Oxalate—
Rotterdam, 7 cks.
Barytes—
Rotterdam, 4 cks Simpson, Howden, & Co.
Boracic Acid—
Hamburg, 7 cks.
Carbonic Acid—
Rotterdam, 20 tubes.
Caustic Soda—
Antwerp, 20 cs.
Chemicals (*otherwise undescribed*)
Rouen, 1 cs
Colours—
Rotterdam, 36 brls. 6 cks 12 bxs. 16 cs. Simpson, Howden, & Co.
" 22 cks. 13 cs.
Treport, 8 1
Antwerp, 2 brls.
Dextrine—
Hamburg, 200 bgs.
Dyestuffs—
Alizarine
Rotterdam, 3 brls. 3 cs. Simpson, Howden, & Co.
Logwood
Jamaica, 369¼ t. E. Brownbill & Co.
Glucose—
Hamburg, 92 cks.
Limestone—
Antwerp, 2 cs.
Ochre—
Treport, 90 cks.
Pitch—
Rotterdam, 23 cks. Simpson, Howden, & Co.
Potash—
Treport, 5 cks.
Antwerp, 9 dms
Potassium Sulphate—
Rotterdam, 100 cks. Simpson, Howden, & Co.
Saltpetre—
Hamburg, 8 cks.
Soda—
Rotterdam, 7 brls. Simpson, Howden, & Co.
Soda Crystals—
Rouen, 11 cks.
Sodium Nitrate—
Rotterdam, 6 cks. Simpson, Howden, & Co.
Sodium Silicate—
Rotterdam, 3 cks.
Starch—
Hamburg, 1,630 cs.
Rotterdam, 390
Tartar—
Bordeaux, 1 ck. J. & P. Hutchinson
Tartar Emetic—
Hamburg, 12 cks.
Tartaric Acid—
Rotterdam, 5 cks
Ultramarine—
Rotterdam, 6 cks. Simpson, Howden, & Co.
Hamburg, 1
Waste Salt—
Hamburg, qty.
Zinc Ashes—
Antwerp, 16 cks.

HULL.

Week ending May 26th.

Acid—
Antwerp, 10 pks.
Ammonium Chloride—
Hamburg, 1 ck. Wilson, Sons, & Co., Ld.
Antimony—
Hamburg, 5 cs. Wilson, Sons, & Co., Ltd.
Arsenic—
Hamburg, 100 cks. Wilson, Sons, & Co., Ld.
Barytes—
Rotterdam, 36 cks. Hanger, Watson & Harris
Antwerp, 75 bgs. 21 cks. Bailey & Leetham
Rotterdam, 41 cks. Hutchinson & Son
Borax—
Rouen, 2 cks.

Boric Acid—
Rouen, 2 cks.

Camphor—
Hamburg, 6 cks Wilson, Sons, & Co., Ld.

Carbonate of Lime—
Hamburg, 11 cks. Wilson, Sons, & Co., Ld.

Carbonic Acid—
Rotterdam, 10 tbs. Hutchinson & Son

Chemicals (*otherwise undescribed*)
Hamburg, 2 cks.
Rotterdam, 2 W. & C. L. Ringrose
Hamburg, 1 3 cs Wilson, Sons, & Co., Ld.
Bremen, 1 kg. 8 pks Veltmann & Co.
Antwerp, 3 272 Wilson, Sons, & Co., Ld.
Dunkirk, 47 "
" 20 dms.

Colours—
Hamburg, 30 cks. 3 pks. Wilson, Sons, & Co., Ld.
Rotterdam, 7 cs. 58 24 pks. Hutchinson & Son
" 4 9 39 pkgs. W. & C. L. Ringrose
" 1 Blundell, Spence, & Co.
Amsterdam, 4 W. & C. L. Ringrose
Danzig, 1 pkge.
Antwerp, 1 9
Hamburg, 10 5 G. Malcolm & Son
Bremen, 2 Veltmann & Co.
" 4 Hanger, Watson & Harris
" 1

Cryolite—
Copenhagen, 2 cks. Wilson Sons, & Co., Ltd.

Dextrine—
Stettin, 300 bgs. Wilson, Sons, & Co., Ld.

Dyestuffs—
Alizarine
Rotterdam, 7 brls. Hutchinson & Son
" 35 cks. W. & C. L. Ringrose
Argols
Bordeaux, 31 bgs. Rawson & Robinson
Fustic
Hamburg, 408 bgs. Wilson, Sons, & Co., Ld.

Farina—
Hamburg, 100 bgs. Wilson, Sons, & Co., Ld.
Stettin, 100 "
Harlingen, 1,310 "
Ghent, 292 cs. "
Hamburg, 50 White & Son
Harlingen, 208
Dunkirk, 50

Glucose—
Stettin, 200 bgs. Wilson, Sons, & Co., Ltd.
" 20 cks.

Lime—
New York, 741 bgs. Wilson Sons, & Co., Ld.

Ochre—
Rouen, 23 cks.

Paint—
Boston, 56 cs. Wilson, Sons, & Co., Ltd.
New York, 30 "

Paraffin Wax—
Hamburg, 14 bgs. Wilson, Sons, & Co., Ld.

Phosphate—
Ghent, 81 t.

Pitch—
Hamburg, 62 brls.
St. Petersburg, 132 cks.
Rotterdam, 45 Hutchinson & Son

Potash—
Antwerp, 4 dms.
Dunkirk, 4 cks. Wilson, Sons, & Co., Ld.

Pyrites—
Huelva, 818 . Pyman, Bell, & Co.

Quicksilver—
Hamburg, 3 btls. Wilson, Sons, & Co., Ld.

Rosin—
New York, 700 brls. Wilson, Sons, & Co., Ld.

Salt—
Hamburg, 2 cks. Wilson, Sons, & Co., Ld.

Saltpetre—
Hamburg, 3 cks. Bailey & Leetham
" 10 kgs. Wilson, Sons, & Co., Ld.

Starch—
Bremen, 1,041 cs. Veltmann & Co.
" 40

Stearine—
Antwerp, 30 bgs. 7 cks Wilson, Sons, & Co., Ld.

Talc—
New York, 280 bgs. Wilson, Sons, & Co., Ltd.

Tar—
Helsingfors, 83 brls. 30 hf.-brls. J. Good & Sons

Tar Oil—
Hango, 1 pkge. J. Good & Sons

Tartar—
Bordeaux, 5 cks. Rawson & Robinson
" 1 ck.

Tartaric Acid—
Rotterdam, 8 cks. Hutchinson & Son

White Lead—
Cologne, 119 cks.
Rotterdam, 102 Hutchinson & Son

Wood Pulp—
Antwerp, 21 bls. Bailey & Leetham
Helsingfors, 422 J. Good & Sons
" 261 Furley & Co.

Zinc Oxide—
Rotterdam, 25 cks. Hutchinson & Son

Zinc Sulphate—
Rotterdam, 5 brls. Hutchinson & Son

GLASGOW.

Week ending May 31st.

Aniline Colours—
Rotterdam, 5 cs. 7 cks.
Hamburg, 1 10

Aniline Dyes—
Antwerp, 4 cks.

Arachide Oil—
Rotterdam, 1 ck. J. Rankine & Son

Barium Sulphate—
Antwerp, 305 bgs. 55 cks.

Barytes—
Rotterdam, 12 cks. J. Rankine & Son
" 58

Castor Oil—
Antwerp, 58 cks.
Calcutta, 500 cs.

Colours—
Rotterdam, 13 cks. 3 brls. J. Rankine & Son
" 23
Antwerp, 2

Dyestuffs—
Alizarine
Rotterdam, 109 cks.
Extracts
Fiume, 200 cks.
Madder
Rotterdam, 7 cks. J. Rankine & Son
Sumac
Palermo, 200 bgs. Wm. Bunten & Co.
" 350

French Chalk—
Fiume, 50 bgs.

Guano—
Tromsoe, 1,600 bgs.
Iceland, 622 sks. J. T. Salvesen & Co

Paraffin Scale—
Philadelphia, 300 brls.

Potash—
Rotterdam, 16 cks, J. Rankine & Son
Antwerp, 2

Pyrites—
Huelva, 1,642 t. Tharsis Co.
Rochefort. 1,000 H. Bornen & Co.

Soap—
Philadelphia, 400 bxs. 26 crts.
Fiume, 78 cs.

Sodium—
Rotterdam, 1 cs. J. Rankine & Son

Starch—
Amsterdam, 1 bx.
Antwerp, 80 cs.

Tallow—
Philadelphia, 6 tcs.
New York, 20

Tartar—
Tarragona, 3 pps.
Messina, 3 cks. Henderson, Hogg, & Co

Waste Salt—
Hamburg, 508 bgs.

White Lead—
Rotterdam, 129 cks.
" 19 J. Rankine & Son

Wood Pulp—
Drontheim, 2,020 bls.
Montreal, 1,633 rlls 1,050 bdls.
Christiania, 25 bls.

Zinc Oxide—
New York, 100 brls.

Zinc White—
Rotterdam, 50 cks. J. Rankine & Son

TYNE.

Week ending May 26th.

Alum Earth—
Hamburg, 18 cks. Tyne S. S.

Barytes—
Antwerp, 71 bgs. Tyne S. S.

Carbonic Acid Gas—
Rotterdam, 50 tbs.

Colours—
Antwerp, 9 cks. Tyne S. S.
Hamburg, 5 cs. "

Limestone—
Antwerp, 7 crts.

Painters' Colours—
Rotterdam, 12 cks.

Phosphate Rock—
Fernandina, 2,500 t.

Saltpetre—
Hamburg, 3 cks. Tyne S. S.

Starch—
Rotterdam, 148 cs.

Sulphur Ore—
Pomaron, 1,173 t. Mason & B

Varnish—
Antwerp, 8 cks Tyne S. S.

White Lead—
Rotterdam, 1 ck.

Zinc Oxide—
Antwerp, 5 brls Tyne S. S.

GOOLE.

Week ending May 23rd.

Antimony—
Boulogne, 1 ck.

Caoutchouc—
Boulogne, 7 cks.

Dyestuffs—
Alizarine
Rotterdam, 43 pkgs. 35 brls.
Logwood
Jamaica, 571 t.
Hayti, 415

Dyestuffs (*otherwise undescrib*
Boulogne, 11 cks. 4 pkgs. 8 cs.

Glucose—
Hamburg, 10 cks.
Calais, 100 bgs.

Ochre—
Calais, 41 cks.

Potash—
Rotterdam, 36 cks.
Dunkirk, 10 62 dms.

Saltpetre—
Rotterdam, 100 bgs.

Waste Salt—
Hamburg, 424 t. 500 bgs. 606 ck

Zinc Oxide—
Antwerp, 20 brls. 4 cks.

GRIMSBY.

Week ending May 26th.

Caoutchouc—
Antwerp, 24 cs.
Hamburg, 9

Chemicals (*otherwise undescrib*
Hamburg, 25 cks. 3 cs.

EXPORTS OF CHEMICAL PRODUCTS
OF
THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending May 30th.

Acids—
Sydney, 27 t. 9 c. £473
Cape Town, 7 kgs. 17

Alum—
Casablanca, 1 t. 4 c £7
Gibraltar, 1 6

Ammonia (Liquid)—
Rotterdam, 2 c. 10 dms. £31

Ammonium Carbonate—
New York, 65 pkgs. £465
Calcutta, 5 cs. 12

Ammonium Chloride—
Sydney, 7 t. 3 c. £145
Philadelphia, 18 cks. 117
Amsterdam, 7 13
Bagdad, 10 18

Ammonium Sulphate—
Trinidad, 10 t. £140
Antigua, 5 67

Arsenic—
Sydney, 2 t. £35
Napier, 1 17

Barium Nitrate—
New York, 1 t. 4 c. £23

Borax—
Harlingen, 4 c. £12
Melbourne, 5 t. 260
Veile, 19 48
Hamburg, 6 cks. 47
Wellington, 5 7

Carbolic Acid—
Sydney, 1 t.
Montreal, 3 pkgs.
Boston. 2 cs.
Algoa Bay, 2
Brisbane, 100 dms.
Genoa, 17
Demerara, 3
Dusseldorf, 4 t. 19 c.

Carbon Bisulphide—
Boston, 27 dms.

tic Potash—
ier, 3 c. £23
tic Soda—
al, 10 t. 10 c. £112
ier, 5 10 79
lington, 11 30
bourne, 18 17 218
laide, 1 10
utta, 40 465
castle, 15 2 176
res, 10 80
nicals *(otherwise undescribed)*
on, 18 c. £69
nburg, 5 cs. 90
mantle, 7 12
laide, 6 100 pkgs. 227
badoes, 3 12
ton, 6 1 dm. 24
ranquilla, 2 11
onto, 3 cks. 72
c Acid—
nburg, 1 ck. 11 c. £109
Petersburg, 16 121
treal, 6 42
men, 10 72
rto, 6 35
Ayres, 20 kgs. 134
on, 10 cks 74
Products—
niline Dyes
telton, 3 cs. £27
nthracene
terdam, 282 cks. £1,600
enzol
terdam, 97 cks. 12 dms. £408
nburg, 10 65
oal Tar Dyes
ton, 12 cks. £146
reosote
Malo, 550 cks. £196
onne, 1,630 914
aphtha
port, 52 brls. £141
aphthaline
enhagen, 10 cks. £20
itch
singfors, 60 t. £82
ta, 200 brls. 78
an, 210 294
rachee, 1 ck 15
kirk, 361 484
andria, 50 14
rre, 535 803
werp, 295 375
ton, 700 327
York, 995 bgs. 193
ar
singfors, 1,100 brls. £518
zig, 250 125
ton, 250 112
per Sulphate—
rto, 9 t. 15 c. £155
deaux, 40 640
ney, 10 8
port, 10 4 152
oum, 6 90
ta, 2 10 41
horn, 27 11 405
ples, 11 1 160
m of Tartar—
ney, 2 t. £134
mantle, 2 c. 7
go, 1 74
nganui, 5 19
telton, 15 62
edin, 7 27
bane, 16
ylic Acid—
ssels, 9 brls £16
nfectants—
telton, 12 cks. £31
rto, 1 t. 3 c. 42
bourne, 2 cs. 15
nburg, 50 cks 250
agena, 2 8
raltar, 3 pkgs. 13
Chalmers, 1 15
edin, 6 13
bane, 1 cs. 14
mbo, 3 14
io—
gua, 4 t. 19 c. £56
Sulphate—
ier, 2 t. 2 c. £8
ire—
ice, 3 t. £90
idad, 10 88
l, 3 8 47
, 202 10 506
rio, 5 13 150
phate—
ice, 10 t. £28
phoric Acid—
edin, 1 c. £10

Phosphorus—
Cartagena, 10 cs. £101
Potash—
Melbourne, 5 t. 17 c. £125
Potash Crystals—
Dunedin, 1 cs. £22
Brussels, 1 35
Montreal, 2 25
Potash Salts—
Natal, 41 t. £4,445
Delagoa Bay, 4 5 c. 464
Potassium Bicarbonate—
Hiogo, 1 t. £28
Potassium Bromide—
Dunedin, 2 c. £17
Potassium Chlorate—
Sydney, 10 £618
Salicylic Acid—
Brisbane, 5 cs. £71
Saltpetre—
Gothenburg, 1 t. £22
Rio de Janeiro, 7 16 c. 184
Bahia, 3 1 72
Oporto, 2 1 44
Algoa Bay, 9 10
Wellington, 10 11
Sheep Dip—
E. London, 14 c. £30
Sydney, 15 t. 206
Soda—
Sydney, 21 t. 12 c. £139
Brisbane, 1 6
Soda Crystals—
Cape Town, 2 t. 8 c. £7
Sydney, 1 19 5
Soda Salts—
New York, 8 cks. £46
Sodium—
New York, 2 t. 17 c. £450
Sodium Acetate—
Sydney, 2 t. 16 c. £70
Sodium Bicarbonate—
Barbadoes, 1 t. 5 c. £9
Algoa Bay, 1 15
Natal, 10 4
Sodium Bisulphate—
Lyttelton 3 t. 11 c. £16
Sodium Hypophosphite—
New York, 1 t. £260
Sodium Oxide—
New York, 1 t. 5 c. £140
Sodium Silicate—
Lyttelton, 1 t. 18 c. £8
Sodium Sulphate—
Ghent, 50 t. £60
Sodium Tartrate—
Oporto, 5 c. £13
Strontium Carbonate—
New York, 4 c. £10
Strontium Nitrate—
New York, 5 t. £123
Sulphur—
Fremantle, 1 t. 15 c. £12
Sydney, 2 12 27
Punta Arenas, 4 37
Natal, 1 17 14
Cape Town, 800 cks. 26 t. 17 c. 300 kgs 1150
Sulphuric Acid—
Singapore, 12 dms. £13
Kurrachee, 14 cs. 13
Brisbane, 15 15
Tartaric Acid—
Sydney, 1 t. £98
Wellington, 6 c. 31
Oporto, 2 10
Dunedin, 2 12
Brisbane, 2 10
B. Ayres, 2 brls. 10
Montreal, 15 74

LIVERPOOL.

Week ending May 30th.

Alkali Waste—
Antwerp, 5 t. 14 c. £16
Alum—
Rodosta, 2 t. 9 c. £12
Bombay, 12 17 68
Ibrail, 1 5
Smyrna, 2 10 16
Montreal, 2 7 1 q. 12
St. John's, N.B., 6 19 2 34
Alum Cake—
Calcutta, 6 t. 7 c. 2 q. £20
Aluminous Cake—
Calcutta, 17 t 8 c. 3 q. £67
Ammonia—
Puerto Cabello, 2 c. £5

Ammonium Carbonate—
Hamburg, 1 t. 1 c. £37
Seville, 16 28
Gothenburg, 7 2 q. 14
Ceara, 4 7
Venice, 1 20
Genoa, 1 10 30
Ammonium Chloride—
Philadelphia, 29 t. 1 c. 3 q. £752
Smyrna, 1 8 54
Genoa. 2 3 44
Iquique, 6 10
Alexandria, 1 10 54
Syra, 15 28
Galatz, 10 19
Naples, 13 22
Piræus, 7 14
Trieste, 2 71
Stockholm, 16 1 22
Bombay, 3 15 133
Ammonium Sulphate—
Valencia, 425 t. 11 c. 3 q. £5786
Montreal. 5 1 2 70
Philadelphia, 16 3 217
Demerara, 30 402
Gd. Canary, 26 10 379
Sourabaya, 102 11 1,495
Alicante, 50 633
Barbadoes, 9 18 2 134
Las Palmas, 30 21 424
Antimony—
Bombay, 5 c.
Asbestos—
Demerara, 1 bx.
Barium Chlorate—
Rotterdam, 13 c. £60
Bleaching Powder—
Ancona, 15 cks.
Boston, 826
Calcutta, 125 cs.
Chicago, 62 bxs.
Genoa, 102
Montreal, 78
Newport News, 79
New York, 370 50 50 brls.
Rio de Janeiro, 6 42
San Sebastian, 86
Seville, 2
Venice, 32
Baltimore, 49
Bombay, 8
Havana, 10
Leghorn, 10
Lisbon, 12
Naples, 10
Philadelphia, 82 50 kgs. 70
Rouen, 15
Vera Cruz, 50
Vigo, 10
Bone Ash—
Marseilles, 10 t. 1 c. 1 q. £150
Boracic Acid—
Yokohama, 2 t. £75
Hamburg, 2 10 c 2 q 94
Boston. 2 13 3 64
New York, 3 5 1 97
Borax—
Rotterdam, 3 t 3 c. £75
Antwerp, 6 9 177
Vera Cruz, 7 8
Ghent, 10 3 q 12
Seville, 3 65
Stettin, 2 3 46
Hamburg, 7 8 3 178
Copenhagen, 4 2 3 93
Bordeaux, 1 25
Constantinople, 11 13
St. John's, N.B, 5 3 6
Calcium Chloride—
New York, 22 t. 11 c. 3 q. £56
Carbolic Acid—
Odessa, 2 t 16 c. 3 q. £50
Ghent, 3 17
Hamburg, 4 15
Rouen, 4 11 2 121
Caustic Potash—
New York, 2 t. 11 c. £62
Chicago, 2 1 49
Barcelona, 1 8 36
Caustic Soda—
Amsterdam, 396 dms.
Baltimore, 200
Barcelona, 164
Bari, 71
Barranquilla, 20
Boston, 200 50 brls. 13 bxs.
Catania, 206
Chicago, 400 5 30
Ferrol, 4
Genoa, 157
Hamburg, 110
Havre, 75
Hiogo, 335
Hong Kong, 2 cks.
La Guayra, 15
Lancaster, 35
Las Palmas, 12
Matanzas, 20
Melbourne, 397
Naples, 13
New York, 671
Odessa, 186
Oran, 30
Pasages, 250
Rangoon, 14
Rio de Janeiro, 40
St. John's, N'fd., 6 pkgs.
Santos, 15
Seville, 70
Tarragona, 20
Venice, 45
Vera Cruz, 17
Yokohama, 140
Alicante, 155
Antwerp, 44
Bombay, 12
Brisbane, 34
Calcutta, 190
Ceara, 30
Gefle, 14
Havana, 60
La Guayra, 20
Malaga, 40
Malta, 35
Maracaibo, 10
M. Video, 150
Montreal, 35
Oporto, 86
Quebec, 35
St. John's, N.B., 25
San Sebastian, 90
Singapore, 14
Stockholm, 12
Sydney, 101
Tampico, 38
Valencia, 25
Chemicals *(otherwise undescribed)*
Leghorn, 1 t. £36
Genoa, 11 11 c. 56
Naples. 1 5 25
Mersyne, 8 14
Philadelphia. 13 1 335
Patras, 3 5
China Clay—
Barcelona, 16 t. 10 c.
Boston, 877
New York, 200
Bombay, 10
Leghorn, 1 bx.
Philadelphia, 17
Chloroform—
Montreal, 2 cs.
Citric Acid—
Montreal, 12 c. £85
Cobalt Oxide—
Antwerp 1 c. £26
Coal Products—
Aniline Colours
Montreal, 2 cs.
Aniline Oil
Philadelphia, 5 dms.
St. Louis, 15
Aniline Salts
New York, 12 cs.
Anthracene
Rotterdam, 22 cks.
Creosote Oil
Bombay, 20 dms.
Pitch
Galatz, 6 brls.
Lagos, 22
Rouen, 2 cks.
Genoa, 1,813 t. 5 c.
La Rochelle, 660
Tar
Galatz, 50 brls.
Old Calabar, 5 c.
Sierra Leone, 20
Coal Products *(otherwise undes.)*—
New York, 8 cks 44 cs. 5 kgs.
Copperas—
Vera Cruz, 3 t. 11 c. 1 q. £7
St. John's, N.B., 3 16 2 6
Alexandria, 3 11 1 8
Copper Sulphate—
Bari, 38 t. 12 c. 3 q. £571
Oporto, 87 7 2 1,288
Constantinople, 2 15 42
Bordeaux, 251 2 3,665
Venice, 128 18 3 1,949
Genoa, 127 2 1 1,975
Nantes, 13 3 199
Naples, 49 10 670
Ancona, 34 1 2 518
Alexandretta. 1 15 1 26
Marseilles, 160 19 2 2,534
Rouen, 118 10 1,811

Odessa, 3 5 3 49
Copenhagen, 2 7 3 35
Lisbon, 18 1 273
Vera Cruz, 7 1 6
Stettin, 1 4 2 19
Leghorn, 24 9 3 361
Antwerp, 2 9 35
Pachuca, 15 219

Disinfectants—
New York, 1 t. 2 q. £115
Rangoon, 1 8

Farina—
New York, 15 cks.

Glucose—
Malta, 40 bgs.

Guano—
Valencia, 190 t. £1,196
Las Palmas, 50 119
Barcelona, 81 429

Lime—
Old Calabar, 3 cks.
Demerara, 63 t.
Sierra Leone, 8 t. 15 c £9

Litharge—
Oporto, 38 cks.

Magnesia—
Ceara, 1 cs.

Magnesium Carbonate—
Vigo, 4 c. £5

Magnesium Chloride—
Rouen, 10 t. £24

Magnesium Sulphate—
Para, 2 cs.
Rio de Janeiro, 50 kgs.

Manure—
Madeira, 20 t. £180
St. Malo, 125 17 c. 1 q. 845
Stettin, 80 226
Gd. Canary, 14 62

Ochre—
Para, 20 kgs.

Paint—
Axim, 25 kgs.
Cabenda, 50
Caibarien, 2 cks.
Calcutta, 40 10 bgs.
Cartagena, N.G. 100
Colombo, 10 dms.
Colon, 15 7
Dixcove, 30
Hong Kong, 56
Iquitos, 3
Kingston, Jam., 525 2
Larnaca, 1
M. Video, 1
Old Calabar, 3 36
Para, 50
Rangoon, 4 brls.
Rio de Janeiro, 3 75
Sagua la Grande, 4
S. Thomas, W. I., 25 1
Talcahuano, 2
Trieste, 16
Valencia, 30
Valparaiso, 12
Vera Cruz, 3
Cape Haitien, 2
Curacao, 70 2
Gd. Canary, 20
Havana, 5
Montreal, 14 cs. 1
Pernambuco, 400
St. Jago de Cuba, 2

Painters' Colours—
Appam, 1 cs.
Belize, 7 cks.
Belleville, 2 kgs. 2
Bilbao, 21 30 dms.
Bonny, 2
Cape Town, 27
Cartagena, N G, 4
Ceara, 4 brls. 24
Gothenburg, 10 100 bgs.
Hamburg. 3
Kingston, Ont., 13 26
Landana, 2
Lisbon, 20
Maceio, 9 brls. 30 dms.
Malta, 4
Montreal, 33
New York, 6 2
Para, 10 1
Ponce 3
Port au Prince, 50
Rio de Janeiro, 20
St. John's, N'fd, 28
Salonica, 2 brls. 6
Seville, 14
Valparaiso, 15
Bahia, 30
Baltimore, 3
Hong Kong, 1 brl.
Sierra Leone, 220
Toronto, 40 20

Paraffin Wax—
Bari 30 cs.
Bombay, 4
Bordeaux, 3
San Sebastian, 156 bgs.

Phosphorus—
Vera Cruz, 9 c. £55

Potassium Bichromate—
Bari, 16 c. £35
Seville, 8 18
Genoa, 17 t. 19 3 q. 606
Bordeaux, 5 2 190

Potassium Carbonate—
Baltimore, 7 c. £7
Chicago, 1 t. 7 28

Potassium Chlorate—
New York, 35 t. £2,078
Shanghai, 5 12 c. 325
Hiogo, 37 10 2,248
B. Ayres, 10 30
Malmo, 2 116
Gothenburg, 10 28
Naples, 5 18
Calcutta, 12 2 q. 41
St. Petersburg, 29 5 1,706
Copenhagen, 3 180
Sydney, 10 609

Potassium Prussiate—
Yokohama, 11 c. 1 q. £50
Genoa, 1 t. 9 3 140

Potassium Stannate—
Bombay, 3 t. 9 c. 2 q. £359

Rosin—
Antwerp, 4 brls.
Rotterdam, 66

Salt—
Amsterdam, 200 t.
Antwerp, 300 3 c.
Bonny, 14 1
Boston, 230
Brisbane, 300
Calcutta, 8,097
Christiania, 5
Demerara, 26 15
Ghent, 140
Lagos 50
Melbourne, 155
Montreal, 1,566 8
Newcastle, N.S.W., 445
Newport News, 480
New York, 1,005 5
Old Calabar, 110 2
Para, 20
Philadelphia, 32 2
Rotterdam, 140
St. John's, N.B., 1006 2
St. John's, Nfld., 15
San Juan, 8
Sherbro, 100
Sydney, 115
Wyborg, 387
Accra, 5
Adelaide, 12 3
Akassa, 400
Alligator Pond, 10
Archangel, 450
Cabenda, 16 1
Cameroons, 89 15
Landana, 5 16
Miramichi, 310
N. Orleans, 465
Norrkoping, 31 5
Quebec 35 sks.
Savannah, 500
Shanghai, 2 10
Sierra Leone, 100
Sinoe, 12
Stockholm, 168 15
Trinidad, 50 17
Ukaka, 11 5
Valparaiso, 1 1
Victoria, W.C.A., 21 8

Saltcake—
Baltimore, 20 t. 4 c. £26
Philadelphia, 60 16 121
Antwerp, 228 14 254

Saltpetre—
Para, 2 t. 10 c. £56
St. John's, N.B., 4 4

Sheep Dip—
Belize, 2 cs. £5
Sandy Point, 3 t. 7 c. 160
Punta Arenas, 10 315

Soap—
Alexandria, 35 bxs. 2 cs.
Algoa Bay, 1,170
Axim, 33
Barbadoes, 955
Belize, 50
Black River, 58
Bombay, 500 15
C. C. Castle, 150
Cape Town, 1,604
Cartagena, N.G., 2
Corinto, 26
Demerara, 1,248
Genoa, 50
Gibraltar, 100 6
Greytown. 200
Guayaquil, 200
Iquique, 115
Iquitos, 100
Lagos, 75
Liege Meuse, 400
Livingstone, 34
Montego Bay, 115
Neuchatel, 120
New York, 400 42
Old Calabar, 612 8
Oporto, 1,000
Parnahyba, 100
Pt. Natal, 125
Rangoon, 750 5
Rouen, 10
St. John's, N'fd., 470
Singapore, 150 60
Sinoe. 56
Teneriffe, 205
Banoka, 40
Bilbao, 2 brls.
Boston, 2 cks.
Brussels, 600
B. Ayres, 2
Cabenda, 100
Calcutta, 426 80
Cameroons, 50
Curacao, 300
E. London, 100
Jersey, 20
Kingston, Jam., 900
Kurrachee, 262
Las Palmas, 310
M. Pongwe, 100
San Fernando, 299
Santos, 24
Shanghai, 100
Stockholm, 50
Toronto, 750
Trinidad. 905
Ukawi, 20
Victoria, B.C., 500
Zacatecas, 1

Soda Alkali—
Adelaide, 50 brls.
Alicante, 20
Barcelona, 50
Bilbao, 70
Melbourne, 114
Sydney, 20
Tarragona, 25
Valencia, 15

Soda Ash—
Baltimore, 2,407 bgs. 479 cks. 239 tcs.
Batavia, 45 brls.
Bombay, 5 cks.
Boston, 1,580 bgs 57 124
B. Ayres, 200
Calcutta, 219
Chicago 657
East St. Louis, 97
Gothenburg, 50 bgs.
Hamburg, 100
Hiogo, 50
Madeira, 4
Philadelphia, 176 1,820 91 tcs.
Rio de Janeiro, 150 10
Singapore, 50
Smyrna, 180
Antwerp, 100 100
Barcelona, 50
Genoa, 300
Johannesburg, 45 kgs.
Lisbon, 14
Malta, 4
M. Video, 75
New York, 2,494 153 7,022 535 tcs.
Pernambuco, 20
Rotterdam, 100
Stockholm, 13
Yokohama, 100

Soda Crystals—
Boston, 100 kgs. 196 brls. 100 bgs. 124 cks.
Calcutta, 23 brls.
Havre, 45 cks.
Picton, N.S., 7 25 kgs.
St. John's, Nfld., 70 25 90
B. Ayres, 50
Gibraltar, 1 cs. 25
Malta, 50 50
Montreal, 67
New York, 280 112
Oporto, 8
Pernambuco, 12
Philadelphia, 330
Rotterdam, 50 dms.
Valparaiso, 100

Sodium Biborate—
Antwerp, 20 kgs.
Hamburg, 60 cks. 41 pkgs
Yokohama, 50 cs.

Sodium Bicarbonate—
Adelaide, 170 kgs.
Ancona, 24
Antwerp, 100 22 cks.
Barcelona, 150
Bilbao, 50
Boston, 200
Bremen, 20
Catania, 25
Constantinople, 45
Dunkirk, 4
Galatz, 60
Havre, 70
Hiogo, 500
Lisbon 50
Malta, 25
Melbourne, 50
Nagasaki, 200
Naples, 40
Odessa, 120
Picton, N.S., 200
St. John, N.B., 100
St. John's, Nfld, 45
Seville, 140 20 brls.
Singapore, 9
Smyrna, 60
Valencia, 150
Calcutta, 300
Ghent, 16
Johannesburg, 21
Montreal, 265
Rotterdam, 150 70
Santander,
Toronto, 50
Yokohama, 1,000

Sodium Bichromate—
Genoa, 4 cks.
Rouen, 14

Sodium Carbonate—
Calcutta, 23 brls.

Sodium Chlorate—
Genoa, 10 kgs.
Hamburg, 65
Rotterdam, 40
St. Petersburg, 90

Sodium Hyposulphite—
Lisbon, 20 kgs.
Philadelphia, 52 cks.

Sodium Nitrate—
New York, 2 cks.

Sodium Silicate—
Bilbao, 20 brls.
Bombay, 12 cks.
Las Palmas, 7
Madeira, 10
Malta. 12 14
Montreal, 6
New York, 50
Oporto, 25
Seville, 10
Shanghai, 16
Barranquilla, 6
Corfu, 13
Melbourne, 20
San Sebastian, 35

Sodium Stannate—
Barcelona, 1 brl.
Rouen, 3 cks.

Sodium Sulphate—
Hamburg. 30 brls.

Sodium Tartrate—
Montreal, 1 ck.

Sulphur—
Montreal, 101 t. 1 c.
Philadelphia, 30
Boston, 200 8
Santos, 10

Sulphuric Acid—
Iquique, 3 t. 5 c.

Superphosphate—
Alicante, 2 t.
Gr. Canary, 7
Las Palmas, 7 3 c. 3 q.

Tartaric Acid—
Vigo, 2 c.

Turpentine—
Barranquilla, 8 c. 2 q.
Malta, 7 2
Singapore, 50 dms.

Varnish—
Barcelona, 11 brls.
Cape Town, 10 cs.
Colombo, 2
Hong Kong, 30 dms.
Para, 3
Seville, 6 1
Montreal, 5

Lead—
10 kgs.
hloride—
y, 16 c. £9
ux, 12 t. 50

NCHESTER.

Week ending May 31st.

1 ck.
nium Chloride—
ona, 10 cks.
Oil—
arg, 20 dms.
als *(otherwise undescribed)*
dam, 3 kgs. 20 cks.
s—
dam, 6 kgs. 6 cs.
ffs *(otherwise undescribed)*
1 cs. 5 brls.
ts—
dam, 6 cks.
sium Sulphate—
Janeiro, 15 kgs.
n Wax—
rp, 6 cs.
arg, 10
n Bicarbonate –
ona, 84 kgs.
n Silicate—
ona, 240 brls.
n Sulphate—
Janeiro, 10 kgs.
—
rp. 1 brl. 7 dms.
arg, 20
—
arg, 2 cks.

HULL.

Week ending May 26th.

—
ania, 1 bl.
berg, 80 kgs.
nium Sulphate—
arg, 503 bgs.
os—
ania, 1 bg. 2 cs.
ing Powder—
ork, 190 cks.
22
—
e, 5 cks.
hour—
ansund, 1 bl.
Soda—
gen, 37 dms.
als *(otherwise under.)—*
p, 13 cs. 18 pks.
agen, 6 cks. 5 58
g, 1
burg, 40 10 35
gen, 20
arg, 5 5 5
berg, 3
ork, 25 31
2 3 4
4 pkgs.
seed Oil—
, 119 c.
agen, 201
burg, 41
arg. 406
berg, 200
lam, 100
gen, 98
ffs *(otherwise undescribed)*
ania, 100 bgs.
arg, 1 ck.
8
d Oil—
p, 7 c.
d, 17
, 127
ania, 498
e, 68
ansand, 27
ansund, 35
eim, 187
burg, 101
rg, 200
er, 21
—
60 cks.

Ochre—
Copenhagen, 7 cks.
New York, 9
Stettin, 19
Paint—
Bergen, 1 ck.
Painters' Colours—
Amsterdam, 27 cks.
Antwerp, 33 1 cs.
Bergen, 150 dms.
Copenhagen, 5
Christiania, 19 40 pks.
Drontheim, 41 84
Gothenburg, 5
Hamburg, 20 3
New York, 184
Rouen, 20
Rotterdam, 5
Reval, 10
Riga, 20
St. Petersburg, 36 cs.
Stettin, 30 5 pkgs.
Stavanger, 2
Pitch—
Copenhagen, 25 t.
Dunkirk, 276
Rotterdam, 1 cs.
Tar—
Bergen, 5 cks.
Bremen, 3
Drontheim, 5
Gothenburg, 150
Hamburg, 8
Konigsberg, 1
Ruhrort, 1 brl.
Varnish—
Antwerp, 1 cs. 2 dms.
Bremen, 1 ck.
Drontheim, 3
Harlingen, 1
Hamburg, 1
Rouen, 1
Stettin, 5 2

GLASGOW.

Week ending May 31st.

Ammonium Sulphate—
Trinidad, 98 t. 19¾ c. £1,416
W. Indies, 225 16¾ 3,044
Demerara, 353 10¾ 4 509
Bleaching Powder—
Valparaiso, 18 t. 1½ c. £130
Bombay, 9 6½ £24. 12s.
Boracic Acid—
Rouen, 1 t. 1¾ c. £40. 10s.
Japan, 1 16 £54
Borax—
Japan, 8 t. 17¾ c. £177
Caustic Soda—
Mauritius, 3 t £26
Singapore, 4 6¼ c. 36
Dyestuffs—
Creosote Oil
Christiania, 50 brls. £25
Bordeaux, 234 t. 8 c. 500
Pitch
Valparaiso, 190 t. £260
Bordeaux, 302 415
Amsterdam, 250 350
New York, 147 9 c. 213
Bombay, 26 11½ £70. 10s.
New York, 66 £86
Tar
Madras, 5 c. £23
Calcutta, 131 t. 12½ 307
Gothenburg, 11 20
Rangoon, 77
Boston, 24 10 53
New York, 96 18 189
Rotterdam, 26 353
Hamburg, 6 dms. 135
Stockholm, 100 cks. 300
Fustic Extract
Montreal, 3 t. 12 c. £143
Logwood
Montreal. 12 t. 4¾ c. £234
Lead Acetate—
Bombay, 7 t. 9 c. £109
Linseed Oil—
New York 1 t. £20
Litharge—
Stockholm, 5 cks £14
Bombay, 1 t. 14 c. £21. 15s.
Magnesium Sulphate—
Rouen, 6 t. 1 c £23
Bombay, 20 £87 10s.
Brazil, 12 1c¾ £61
Manganese—
Rouen, 5 t. 16¾ c. £51
Rotterdam, 22 cks. 100
Manure—
Demerara, 30 t. £390
W. Indies, 86 £25
Nitrate of Lead—
Rouen, 12 t. 19½ c £180
Paint—
Rangoon, 7 t. 7 c. £90
Valparaiso, 24 14½ 553
Christiania, 108 kgs. 23
Calcutta, 46
Demerara, 3 t. 16 51
New York, 1 9 29
Antwerp, 19 37
Painters' Colours—
Mauritius, 5 t. 1¾ c. £69
Rotterdam, 4 dms. 3
New York, 15 53
Paraffin Wax—
Nantes, 3 t. 14¼ c. £95
Rouen, 19½ 36
Barcelona, 7 12½ 215
Japan, 19 11½ 495
Trieste, 2 5 64
Bombay, 2 4 70
Brazil, 1 9 40
Potash Salts—
Madras, 8 t. 15¾ c. £775
Potassium Bichromate—
Rouen, 36 t. 3½ c. £1,399
Boston, 11 16¾ 469
Japan, 5 5 199
Bombay, 3 1¼ 115
Potassium Prussiate—
Rouen, 13¾ c. £48
Rosin—
Calcutta, 18 t. 18 c. £75
Rosin Oil—
Rotterdam, 10 brls. £20
Salt—
Valparaiso, 10 t. 3½ c. £80
Soap—
Valparaiso, 2 t. 10 c. £37
New York, 3 9 71
Bombay, £39 12s.
Sodium Bichromate—
Rouen. 9 t. 18¼ c. £322
Bombay, 2 7¼ 72
Sulphuric Acid—
Rangoon, £192
Tallow—
Oporto, 1 t. £27
Tartaric Acid—
Rotterdam, 1 ck. £25
Yarnish—
Christiania, 5 brls. £5

TYNE.

Week ending May 26th.

Alkali—
Christiania, 2 t. 8 c
Rotterdam, 1 16
Alum Cake—
Horsens, 10 t. 2 c.
Ammonia—
Barcelona, 4 c.
Ammonium Carbonate—
Barcelona, 10 c.
Ammonium Chloride—
Genoa, 5 c.
Ammonium Sulphate—
Randers, 1 t.
Antimony—
Barcelona, 4 t. 7 c.
Arsenic—
Barcelona, 11 t. 11 c.
Barium Binoxide—
Antwerp, 10 t. 2 c.
Barytes Carbonate—
Hamburg, 10 t.
Bleaching Powder—
Danzig, 1 t. 12 c.
Newfairwater, 23 18
Antwerp, 27 1
Christiania, 31 15
Aalborg, 1 1
Copenhagen, 2 1
Libau, 25 12
Rotterdam, 24 13
Borax—
St. Petersburg, 2 c.
Caustic Soda—
Newfairwater, 4 t. 18 c.
Antwerp, 8 2
Genoa, 55 13
Hamburg, 39 14
Barcelona, 128 7
Copperas—
Oporto, 1 t. 17 c.
Litharge—
Antwerp, 9 t. 18 c.
Barcelona, 3 2
Magnesia—
Genoa, 1 t 14 c.
Hamburg, 12
Barcelona, 15 10
Manure—
Barcelona, 10 t. 5 c.
Ochre—
Christiania, 3 t. 4 c.
Oxalic Acid—
Danzig, 2 t. 1 c.
Barcelona, 26 2
Paint—
Antwerp, 16 c.
Bergen, 1 t. 12
Hamburg, 11
Christiansund, 1 1
Phosphorus—
Genoa, 1 t. 6 c.
Barcelona, 2 16
Potash—
Barcelona, 17 c.
Potassium Bichromate—
Barcelona, 2 t 1 c.
Potassium Chlorate—
Ancona, 1 t. 14 c.
Slag—
Rotterdam, 86 t.
Soda—
Antwerp, 1 t.
Hamburg, 13 15 c.
Christiania, 9 15
Constantinople, 8 2
Drontheim, 10
Soda Ash—
Antwerp, 5 t. 8 c.
Copenhagen, 21 6
Sodium Hyposulphite—
Odessa, 1 t.
Sodium Silicate—
Barcelona, 5 t. 1 c.
Sodium Sulphate—
Christiania, 1 t. 4 c.
Sulphur—
Newfairwater, 30 t.
Antwerp, 5
White Lead—
St. Petersburg, 16 c.
Danzig, 11
Copenhagen, 1 14

GOOLE.

Week ending May 23rd.

Chemicals *(otherwise undescribed)*
Antwerp, 1 ck.
Boulogne, 2
Rotterdam, 24
Coal Products *(otherwise undes.)*
Boulogne, 2 cs. 24 tins.
Ghent, 87 cks. 29 dms.
Hamburg, 1
Rotterdam, 61
Dyestuffs *(otherwise undescribed)*
Ghent, 1 cs.
Hamburg, 1 24 cks. 940 bgs.
Logwood—
Antwerp, 100 t.
Manure—
Boulogne, 35 bgs.
Pitch—
Antwerp 689 t.
Rotterdam, 290

GRIMSBY.

Week ending May 26th.

Chemicals *(otherwise undescribed)*
Dieppe, 6 cks. 148 brls
Hamburg, 20 cs. 22 8 14 pkgs. 26 dms.
Rotterdam, 4
Coal Products *(otherwise undes.)*
Dieppe, 1 cs. 34 brls.

PRICES CURRENT.

WEDNESDAY, June 6th, 1894.

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 116, PORTLAND STREET, MANCHESTER.

The values stated are F.O.R. at maker's works, or at usual ports of shipment in U.K. The price in different localities may vary

	£	s.	d.
Acids:—			
Acetic, 25 %, and 40 % .. .. per cwt.	6, 6 & 10, 6		
,, Glacial .. .. ,,		50/-	
Arsenic S.G., 2000° .. .. ,,	0	14	6
Fluoric .. .. per lb.	0	0	3¾
Muriatic (Tower Salts), 30° Tw. .. .. .. per bottle	0	0	10
,, (Cylinder), 30° Tw. .. .. ,,	0	3	0
Nitric 80° Tw. .. .. per lb.	0	0	1¾
Nitrous .. .. ,,	0	0	1¾
Oxalic .. .. nett ,,	0	0	3¾
Phosphoric, 1750° .. .. ,,	0	1	0
Picric .. .. ,,	0	1	0
Sulphuric (fuming 50 %) .. .. per ton	15	10	0
,, (monohydrate) .. .. ,,	5	10	0
,, (Pyrites, 168°) .. .. ,,	3	0	0
,, ,, 150° .. .. ,,	1	5	0
,, (free from arsenic, 145°) .. .. ,,	1	6	0
Sulphurous (solution) S.G. 1025 .. .. ,,	3	0	0
Tannic (pure) .. .. per lb.	0	1	1
Tartaric .. .. ,,	0	0	11
Arsenic, white powdered .. .. nett per ton	14	5	0
Alum (loose lump) .. .. ,,	5	2	6
Alumina Sulphate (pure) .. .. ,,	5	0	0
Aluminoferric .. .. ,,	2	7	6
Aluminium .. .. per lb.	0	3	0
Ammonia, Anhydrous .. .. ,,	0	1	3
,, ·880=28° B. .. .. per lb.	0	0	3
,, =24° B. .. .. ,,	0	0	2¼
,, Carbonate .. .. nett ,,	0	0	3¾
,, Muriate .. .. per ton	24	10	0
,, ,, (sal-ammoniac) 1st & 2nd .. per cwt.	39/- & 37/-		
,, Nitrate .. .. per ton	44	0	0
,, Phosphate .. .. per lb.	0	0	10½
,, Sulphate (grey) London .. .. per ton	14	2	6
,, ,, (grey) Hull .. .. ,,	14	2	6
Aniline Oil (pure) .. .. per lb.	0	0	5½
Aniline Salt ,, ... ,,	0	0	5¼
Antimony .. .. per ton	45	10	0
,, (tartar emetic) .. .. per lb.	0	0	10
,, (golden sulphide) .. .. ,,	0	0	10
Barium Chloride .. .. per ton	6	10	0
,, Carbonate (native) .. .. ,,	3	10	0
,, Sulphate (native levigated) .. .. ,,	45/- to 75/-		
Bleaching Powder, 35 % .. .. nett ,,	7	10	0
,, Liquor, 7 % .. .. ,,	3	10	0
Bisulphide of Carbon .. .. ,,	11	15	0
Chromium Acetate (crystal) .. .. per lb.	0	0	6
Calcium Chloride .. .. per ton	2	5	0
China Clay (at Runcorn) in bulk .. .. ,,	17/6 to 30/-		
Coal Tar Products and Dyes:—			
Alizarine (artificial) 20 % .. .. .. net per lb.	0	0	8
Magenta .. .. ,,	0	3	9
Anthracene, 30 % A, f.o.b. London .. per unit per cwt.	0	1	1
Benzol, 90 % nominal .. .. .. per gallon	0	1	0
,, 50/90 ,, ... ,,	0	1	3
Carbolic Acid (crystallised 40°) .. .. per lb.	0	0	6¼
,, (crude 60°) .. .. per gallon	0	1	9
Creosote (ordinary) .. .. ,,	0	0	1½
,, (filtered for Lucigen light) .. .. .. ,,	0	0	2½
Crude Naphtha 30 % @ 120° C. .. .. ,,	0	0	5¾
Grease Oils, 22° Tw. .. .. per ton	2	10	0
Pitch, f.o.b. Liverpool or Garston .. .. .. ,,	1	9	6
Solvent Naphtha, 90 % at 160° .. .. .. per gallon	0	1	3
Lucigen" and "Wells Oils .. .. ,,	0	0	2½
Copper .. .. per ton	39	0	0
,, Sulphate .. .. ,,	15	10	0
,, Oxide (copper scales) .. .. ,,	39	5	0
Glycerine (crude) .. .. ,,	15	10	0
,, (distilled S.G. 1250°) .. .. ,,	44	0	0
Iodine .. .. nett, per oz.	0	0	9
Iron Sulphate (copperas) .. .. per ton	1	4	0
,, Sulphide (antimony slag) .. .. ,,	2	0	0
Lead (sheet) for cash .. .. ,,	10	10	0
,, Litharge Flake (ex ship) .. .. ,,	13	0	0
,, Acetate (white ,,) .. .. ,,	26	0	0
,, ,, brown ,,) .. .. ,,	16	10	0
,, Carbonate (white lead) pure .. .. .. ,,	20	0	0
,, Nitrate .. .. ,,	20	0	0
Lime, Acetate (brown) .. .. per ton	5	17	6
,, ,, (grey) .. .. ,,	10	5	0
Magnesium (ribbon and wire) .. .. per oz.	0	2	3
,, Chloride (ex ship) .. .. per ton	2	10	0
,, Carbonate .. .. per cwt.	1	17	6
,, Hydrate .. .. per ton.	17	0	0
,, Sulphate (Epsom Salts) .. .. per ton	3	0	0
Manganese, Sulphate .. .. ,,	17	15	0
,, Borate .. .. per cwt.	2	12	6
,, Ore, 70 % .. .. per ton	4	5	0
Methylated Spirit, 61° O.P. .. .. per gallon	0	2	2
Naphtha (Wood), Solvent .. .. ,,	0	3	7
,, ,, Miscible, 60° O.P .. .. ,,	0	4	3
Oils:—			
Cotton-seed .. .. per ton	21	5	0
Linseed .. .. ,,	22	10	0
Petroleum, American .. .. per gallon	0	0	5¼
Stearine .. .. per ton	28	0	0
Phosphorus (yellow) .. .. per lb.	0	2	2
,, (red) .. .. ,,	0	2	9
Potassium (metal) .. .. per oz.	0	3	7
,, Bichromate .. .. nett per lb.	0	0	4½
,, Carbonate, 90% (ex ship) .. .. per ton	16	15	0
,, Chlorate .. .. per lb.	0	0	7¼
,, Cyanide, 98% .. .. ,,	0	2	0
,, Hydrate (Caustic Potash) 80/85 % .. .. per ton	21	15	0
,, ,, (Caustic Potash) 75/80 % .. .. ,,	20	0	0
,, ,, (Caustic Potash) 70/75 % .. .. ,,	19	10	0
,, Nitrate (refined) .. .. per cwt.	1	2	6
,, Permanganate .. .. per cwt.	3	2	6
,, Prussiate Yellow .. .. per lb.	0	0	10¼
,, Sulphate, 90 % (ex ship) .. .. per ton	9	15	0
,, Muriate, 80 % (do.) .. .. ,,	8	7	6
Silver (metal) .. .. per oz.	0	2	4⅜
,, Nitrate .. .. ,,	0	2	10
Sodium (metal) .. .. per lb.	0	3	4
,, Carb. (refined Soda-ash) 48 % .. nett per ton (F.O.B.)	4	17	6
,, ,, (Caustic Soda-ash) 48 % .. .. ,, ,, (F.O.B.)	4	2	6
,, ,, (Carb. Soda-ash) 48% .. .. ,, ,, (F.O.B.)	4	0	0
,, ,, (Alkali) 58 % .. .. .. ,, ,, (F.O.B.)	3	15	0
,, ,, (Soda Crystals) .. .. .. ,, ,, (F.O.B.)	2	12	6
,, Acetate (ex-ship) .. .. ,,	14	15	0
,, Arseniate, 45 % .. .. ,,	11	0	0
,, Chlorate .. .. per lb.	0	0	8½
,, Borate (Borax) .. .. net, per ton.	23	0	0
,, Bichromate .. .. ,, per lb.	0	0	3¼
,, Hydrate (77 % Caustic Soda) (f.o.b.) net pr. ton (10 ton lots)	10	15	0
,, ,, (74 % Caustic Soda) ,, ,, ,, (10 ton lots)	9	17	6
,, ,, (70 % Caustic Soda) ,, ,, ,, (10 ton lots)	8	17	6
,, ,, (60 % Caustic Soda) .. ,, ,, (10 ton lots)	7	17	6
,, ,, (60 % Caustic Soda, cream) (f.o.b.) ,, (10 ton lots)	7	15	0
,, Bicarbonate .. .. ,,	6	12	6
,, Hyposulphite .. .. ,,	5	12	6
,, Manganate, 30% .. .. ,,	16	0	0
,, Nitrate (95 %) ex-ship Liverpool .. .. per cwt.	0	9	7½
,, Nitrite, 98 % .. .. per ton	29	10	0
,, Phosphate .. .. ,,	15	0	0
,, Silicate (glass) .. .. per ton	5	7	6
,, ,, (liquid, 100° Tw.) .. .. ,,	4	5	0
,, Stannate, 40 % .. .. per cwt.	3	0	0
,, Sulphate (Salt-cake) .. .. per ton.	0	17	6
,, ,, (Glauber's Salts) .. .. ,,	1	5	0
,, Sulphide .. .. ,,	8	10	0
,, Sulphite .. .. ,,	5	15	0
Strontium Hydrate, 100% .. .. ,,	8	10	0
Sulphocyanide Ammonium, 95 % .. .. per lb.	0	0	7¼
,, Barium, 95 % .. .. ,,	0	0	5
,, Potassium .. .. ,,	0	0	7¼
Sulphur (Flowers) .. .. per ton.	7	12	6
,, (Roll Brimstone) .. .. ,,	5	15	0
,, Brimstone: Best Quality .. .. ,,	3	17	6
Superphosphate of Lime (26%) .. .. ,,	2	7	6
Tallow .. .. ,,	26	0	0
Tin Crystals .. .. per lb.	0	0	6¼
English Ingots .. .. ,,	75	10	0
Zinc (Spelter) .. .. per ton	15	12	6
,, Chloride (solution, 96° Tw.) .. .. .. ,,	5	10	0

THE

HEMICAL TRADE JOURNAL

AND

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DVERTISEMENTS.

TENDER.

LONGWOOD GAS COMPANY.

TAR AND LIQUOR.

DIRECTORS of the above Company are d to receive TENDERS for the purchase of the surplus TAR and AL LIQUOR made at their Works during the year commencing

to be 5° Twaddell.

ed quantity for disposal is about 950 tons.

lers, endorsed "Tar and Liquor," addressed to the CHAIRMAN, Gas wood, Huddersfield, to be sent in not later than Wednesday, .

JOHN LOWE MITTON,
Manager and Secretary.

TENDER.

SURPLUS TAR.

GAS COMMITTEE of the Corporation of y are prepared to receive TENDERS for the purchase of the surplus at the Works, Coventry, for one year, from July 1st next.

1,500 tons per annum.

ating price per ton delivered into boats, to be addressed to the t later than June 18th, and marked "Tender for Tar."

tee do not bind themselves to accept the highest or any Tender.

GEO. WINSTANLEY,
Manager.

Coventry,
June 7th, 1894.

Notices.

nunications for the *Chemical Trade Journal* should be nd Cheques and Post Office Orders made payable to—

BROS., 32, Blackfriars Street, MANCHESTER.

Advertisements.

vertisements of Situations Vacant, Premises on Sale or To be Let, Wants, and Specific Articles for Sale by Private Contract are *Chemical Trade Journal* at the following rates:—

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ach additional 10 words ..... 0s. 6d.

ents of Situations Wanted are inserted at one-half the when prepaid, viz.:—

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tisements, Announcements in the Directory Columns, and all Advertrepaid, are charged at the Tariff rates, which will be forwarded on

CURRENT TOPICS.

SALT IN THE ISLE OF MAN.

ACCORDING to Professor Boyd Dawkins, the prospects of the salt industry being established in the Isle of Man are sound, to say the least, and without being unduly sanguine, it may be added promising.

The fact of salt being worked at Preesal, and across the Irish Channel at Carrickfergus, caused geologists, not unnaturally, to wonder whether a submerged bed of salt connected the two districts. If that were so, it would by a natural sequence follow that salt should exist in the Isle of Man. At different times since 1886, Professor Dawkins has been endeavouring to ascertain if geological *data* could be got together to substantiate this conjecture. From the communication he has made this week to the Geological Society at Manchester, he seems to have been on the whole successful.

His geological investigations tend to show that North-Eastern Ireland, the North of the Isle of Man, and the English Lake District constitute one vast marine basin, from which the Triassic salt-bearing marls crop out at Barrow, the Isle of Man, and again at Carrickfergus, and are linked together by the deposits submerged in the Irish Sea. Borings have shown that the marls worked at Barrow and Carrickfergus are identical, and quite lately borings, in search of coal rather than salt, made in the North of the Isle of Man have revealed such information touching the lay of the salt-bearing marls, as to give rise to the prospect of the salt industry being established in that island.

The bed of salt, as far as it has been investigated, is thinner than that which occurs at Duncrue, near Carrickfergus; but a boring at the Point of Ayre has resulted in the discovery of a bed over 31 feet thick, the bore hole also intersecting a brine run 2 feet 6 inches deep. As further confirmation of the possibilities of this industry being developed in the island, the fact may be cited that the sectional details revealed by the boring at the Point of Ayre, agree almost exactly with those which have been recorded about the saliferous marls of Duncrue; from which district, according to the latest statistics of the mineral production of the United Kingdom, close on thirty-five thousand tons of rock salt are produced annually.

MANUFACTURERS' SMELLS.

A very lengthy case has been recently concluded in the Chancery Division, in which a great deal of evidence was heard on both sides. The matter when reduced to the terms of the judgment of Mr. Justice Romer, seems to be very simple, however. The complaint against the defendants, who were soap makers and tallow melters, was one of long standing, and was based on the smell which came from the works during the summer. The nuisance seems to have been tolerated for several summers, and on this ground the defendants evidently considered they were entitled to be excused.

His Lordship's ruling in granting an injunction, absolutely dispelled any imaginary rights on this ground, however. In his judgment he distinctly states that a lapse of time from the first creation of the nuisance to the institution of proceedings to gain an injunction, in no way affects the right of the Attorney-General to prosecute. Further, he stated that although he granted a stay of execution for one month, because he was of the opinion that the works could be carried on without creating a nuisance, nevertheless whether that was so or not the nuisance would have to be abated, as it was not at all necessary for the Attorney-General to make out from what part of the works the nuisance came, but merely to prove the existence of the same, and this had been abundantly done. Reference to this ruling may prove beneficial to manufacturers in similar cases in the future.

THE FOOD ADULTERATION INQUIRY.

The applications made by agricultural interests and the Federation of Grocers' Associations for an inquiry into the adulteration of dairy produce and the administration of the Food and Drugs Adulteration Acts, have resulted in the formation of a special Parliamentary Committee, which commences its labours next week, with Mr. H. Gardener as chairman. The constitution of the Committee indicates a predominance of the agricultural interest.

The chief points to which attention will be given are the adulteration of butter, the vending of butter substitutes for the genuine article, and also the frauds practiced in the sale of milk and cream.

The grievance of the grocers is not quite so apparent. The interpretation put upon the Food Adulteration Acts by magistrates nowadays is different, it is contended, from the original meaning of the Acts, when passed, about twenty years ago.

The adulteration is said to be done by the manufacturer, and not the retailer; and, very truly, magistrates do fine the retailers, while the guilty parties escape scot-free. All the same the contention of the magistrates is a rational one. The Acts were framed to protect the public, who are the final purchasers, and to succeed in so doing the magistrates have to fine those who supply the public. The grievance is therefore reduced to one of the retailer against the wholesale dealer or producer. In such case the former can protect himself by insisting on a warranty with the goods he purchases. In many cases a warranty is accepted for what it is worth, without troubling to ascertain whether it is of value as a legal warranty or not. It therefore remains an open question whether in the long run it is not more desirable to get at the wholesale producer and actual adulterator through the retail dealer, and so keep a check on both, than to take action against the manufacturer direct; since the retailer can always exonerate himself by the production of his warranty.

Pharmacological Research.—In connection with the recent foundation of a Research Fellowship in Pharmacology by the Court of the Salters' Company, the Research Committee of the Pharmaceutical Society announces that the selection of the Salters' Company's Research Fellow will take place on July 3rd next. Written applications for the Fellowship must be received by the Director of the Research Laboratory, 17, Bloomsbury Square, before June 30th.

Diamond-Back Turnip Moths.—These moths, which did so much damage to turnips in 1891, have again been observed in Norfolk. The moths are distinguishable by having a row of white-diamond-shaped marks down the middle of the back, or, when old and the pattern rubbed off, looking very much like gray clothes moths. The caterpillars are about half an inch long and usually of a delicate green colour, but are somewhat variable. Their treatment has been referred to in back numbers of this Journal.

Our Book Shelf.

Practical Hints on the Construction and Work
Regenerator Furnaces. By Maurice Graham. 131
cluding Index. 50 Illustrations, and Coloured Table of G
Heats. London: E and F. N. Spon. 1894.

It is necessary that no wrong impression as to the aims and in
of this little work should exist. It is a practical elementary
treatise on the working and erection of regenerator furnaces as
to the heating of retorts in the manufacture of coal gas.

It naturally contains a good deal of information useful
having to do with regenerator furnaces in general, but is not
for those who have not some acquaintance with gaseous firing.

The suggestions as to the selection of materials and the gene
struction of these furnaces are useful, and supplemented wi
drawings, so that a clear conception of what is desirable and w
be avoided is easily gained.

The pith of the book, however, is contained in Part II.
abounds with practical hints upon the manipulation of gas f
The principles which underlie their working are shortly but
set forth, followed by some helpful remarks upon starting new f
Clinkering, fuel, raising heats, lowering heats, and the causes
heats are in turn discussed, interspersed with suggestions as to
best to accomplish, or detect and remedy such matters as the
By way of conclusion, a brief summary is appended setting forth
type the cardinal points to be remembered.

Neatly, but strongly bound, this little work forms a most us
handy guide to the management of gaseous fuel furnaces.

Engineering Chemistry. By H. J. Phillips. Second
398 pp., including Index and Appendix. 50 woodcuts
Crosby Lockwood and Son. 1894. 10s. 6d.

It is not very surprising to learn that a second edition of th
has been called for, although the original was only publishe
years ago. It supplies a want to a growing class of students,
as to chemical engineers.

The chief features of the book have been retained intact, b
timely amplifications have been effected in accordance with the
tions of the Press made in criticising the first edition, and the illus
have been increased in number by seventeen.

The more important additions embrace fuller information u
processes—old and new—employed in the softening of water,
as a list of the hundred-and-one articles which have been
preventing the formation of scale. The remarks of the auth
the time and place for softening boiler waters are highly comme
The deletion of the old purity standards fixed by the River P
Commissioners is a wise step, as they are now quite obsolete.

Under the heading of fuels further desirable innovations ar
noticed. The Referee test for sulphur in gas, and Hartley's
meter also find a place under gaseous fuels, as likewise doe
Specific Gravity Balance under the specific gravity of gases In th
dealing with the testing of the materials used in making
grease, a handy and concise table for the analysis of railway
itself—a composition often of considerable complexity—is als
found. Further, Gibb's Viscosimeter has been added under
Prior to describing the analysis of gasworks products an accoun
manufacture of gas and the methods of testing it for illum
power and impurities has been introduced.

In this second edition practical chemists of almost all classes
thoroughly trustworthy work, dealing with the analysis of a nu
trade products in a concise form and practical fashion.

Law and Theory in Chemistry. By D. Carnegie.
London: Longmans, Green, and Co. 1894. 6s.

This book will be found a well-written, useful, and most co
able work. It is a refreshing exception to the text-book type
duction. It only claims to be a companion book for studen
very satisfactorily justifies its claim.

It is not suited nor meant for beginners, though it is just th
that is wanted for those who have fitted themselves to begin
chemistry rather than to learn it.

The work is virtually the substance of a course of eight
delivered at the Colorado College, U.S.A., and is divided int
chapters dealing with just those points which are usually
inadequately in text books, or not at all, according as to wheth
are viewed as matters of secondary importance or superfluities.
would-be student of the science of chemistry, however, these po
facts of great importance, and the concise form in which their te

ented renders the work of great value to students, and those interested in applied chemistry.

irst two chapters constitute a satisfactory historical compendium, l with alchemy, the birth of scientific chemistry, the reign of the on theory, and the beginning of the chemical theory. Chapter levoted to the subject of classification, and deals most helpfully xtures, compounds, and elements. The symbols and explana- ed in defining the distinction between compounds and mixtures happy and ingenious. The atomic theory forms the subject of th chapter, which is very readable, and well worth the reading. t chapter, though, is the seventh,—that is, assuming that it is educe all the other chapters to the comparative degree,—which ed to the question of chemical equilibrium, and the peculiarities in chemical reactions are carefully gone into. The vagueness erm weak or strong acid is also emphasised, and very interesting is the description given of the investigation of equilibria in to both acids and bases. At the same time, the difficulties re raised about the theory of solution, by the arguments used in g of the vagaries of certain reactions, are not overlooked, but notified. This, the last, chapter is preceded by two useful s on the classification of acid bases and compounds, and on the question of molecular architecture.

Legal Intelligence.

HIGH COURT OF JUSTICE.

QUEEN'S BENCH DIVISION.

(Before Mr. Justice Wills and a Special Jury.)

JOHNSTON *v.* SMITH.

was an action brought by a dairyman and provision dealer at ch against the public analyst for the district of the Woolwich Board to recover damages for negligently certifying that the 's milk had been adulterated, therby causing the plaintiff to be ted.

Bonsey, in opening the plaintiff's case, said the inspector pur- a sample of milk from the plaintiff for the purpose of analysis. fendant analysed it and certified 20 per cent. of added water. ntiff was summoned and the correctness of the analysis was d. The case was adjourned for another portion of the sample to ysed at Somerset House. The second analysis showed no added and the summons was dismissed. The plaintiff contended that endant had cast upon him a responsible and important duty. fendant was bound to know that where an inspector sent him analysis, and he certified that it was adulterated, the inspector ake proceedings under the sale of Food and Drugs Act. His herefore, was to take care he did not injure any one by negligently certificate.

John Carty, the inspector appointed by the Woolwich Board th, said in December, 1892, he called at the plaintiff's shop and ed one pint of milk. He divided it into three 6oz. bottles, and nd numbered them all 682. He left one with plaintiff, one he d one he sent to defendant at King's College. That was done presence of the plaintiff. The defendant certified that there per cent of added water. Upon the receipt of that a summons en out under the direction of the Local Board. When the s was heard the defendant's certificate was put in evidence. agistrates suggested that the case should be adjourned and the alysed by the Somerset House authorities. He went and got d portion of the sample and handed it to the magistrate. The te from Somerset House was sent to the magistrate. The te said the sample was marked 682, and there was no added The summons was dismissed.

-examined: He had not been dismissed. He was relieved of y of inspector of food. The defendant had complained of the dealt with the samples. His son copied from his note-book ng number of a sample, but the label was perfectly correct. He t in samples with the numbers of samples sent in before. He ur samples of milk from four people on the same day. In the two the defendant's analysis corresponded with the certificate merset House. He wrote the labels in his office. He had 12 with him on that day. His sight was weak. While he was or he had to write the labels. On December 12, 1892, there other man summoned for adulterated milk.

xamined: Four samples were bought on the same day. Two rtified as genuine. The two genuine were 681 and 683. In e of 680 the magistrate did not direct a sample to be sent to et House. The defendant had not complained about him he plaintiff was summoned. He always affixed the labels in the e of the vendor.

Further cross-examined: On September 4, 1891, he put 551 instead of 557 on a label by mistake.

Mr. Alfred de Hailes, examined, said on January 9, 1892, he had a sample of milk, No. 682, sent to him by the plaintiff. There was about 3 per cent. of added water.

Cross-examined: The defendant was a very eminent person in his position. If one person found no added water and another 20 per cent. they must have been analysing different samples.

Dr. Bannister, analyst at Somerset House, said he received a sample of milk on January 14. He analysed it in company with Dr. Bell and Mr. Cameron. The certificate produced was the one they made.

Cross-examined: He could not account for the difference between their certificate and the defendant's except that they were analysing different samples of milk.

The plaintiff, called, said the inspector put the milk in three bottles and put on the labels, all numbered 682, in his presence. He sealed the bottles and left one. His profits fell off £3. to £4. a week after the summons.

The plaintiff's wife corroborated the plaintiff as to the numbering of the bottles.

Dr. Bannister, recalled, said he analysed sample 680 as well as 682. 680 contained 5 per cent. of added water.

At the close of the plaintiff's case,

Mr. Channell submitted that no action would lie against the defendant for the negligent performance of his public duties.

Mr. Justice Wills: With regard to that I shall require the law to be elaborately argued, but the case must be first left to the jury upon the question of negligence.

Dr. W. R. Smith, the defendant, was called, and said he was director of the laboratories of State Medicine and Professor of Forensic Medicine at King's College, London. He examined the milk. He estimated the total solids and the fat. To get the total solids a small quantity of milk was put into a small dish and weighed. The milk was then evaporated and weighed again, after all the moisture had evaporated. That gave the total solids. Where there was a suspicion of adulteration the invariable rule was to repeat the analysis. In this case his second analysis agreed with the first. The result of the analysis showed 20 per cent. of water. He had had to complain of the way Mr. Carty placed his samples before him.

Cross-examined: He asked Mr. Carty to frequently send him samples of milk in order to carry out the provisions of the Act.

Mr. Huntly, examined, said he was Senior Demonstrator in the laboratory, King's College. He assisted Dr. Smith in making the analysis. It was not possible for a mistake of 20 per cent. to occur.

Mr. Justice Wills, in summing up, said: The only question was—Was it proved to their satisfaction that Dr. Smith had been guilty of negligence? It was for the plaintiff to make that out. Somehow or other a mistake had been made. The samples had either got mixed up or there must have been an extraordinary and extravagant blunder in the making of the analysis. The case for the plaintiff depended upon whether they could rely upon the proper sampling of the bottles by Mr. Carty. He would ask them to find upon the issue of negligence before he addressed them upon the question of damages.

The jury found a verdict for the defendant.

Judgment accordingly.

CHANCERY DIVISION.

(Before Mr. Justice Romer.)

THE ATTORNEY-GENERAL *v.* SMITH.

This case occupied the attention of the Court for several days, there being much evidence. But the only question was whether the defendant ought to be restrained by injunction from carrying on his works so as to cause a "nuisance by stink to the public." The proceedings were commenced at the relation of the Hampton Local Board, the defendant, Mr. W. G. Smith, being a candle-maker, tallow-melter, and soap-maker, carrying on business in Thames-street, Hampton.

Mr. Justice Romer said that what was complained of had occurred every summer. There was clear proof of a public nuisance which was intolerable—indeed, his Lordship had seldom known a case so clearly and abundantly proved. It was not necessary for the Attorney-General to make out from what part of the works the nuisance came. His Lordship rather gathered that the nuisance arose from the melting of fat, and thought it would be possible to carry on the business without causing a nuisance if care was used; but, whether that was so or not, the defendant must stop the nuisance. The Attorney-General's rights in a case of public nuisance were not affected by the fact that there had been a lapse of time since the nuisance began. There must be an injunction against carrying on the works so as to cause a nuisance by stink to the public; but the operation of the injunction would be suspended by consent for a month to see whether means could not be taken to carry on the works without causing a nuisance.

THE INSURANCE OF CHEMICALS.

FRENCH manufacturers are complaing of the way in which insurance policies are drawn out for chemicals. It is stated that the clauses are indifferently worded and so lead to law suits, which often end unfavourably for the assurer. The method of classification however is the chief cause of complaint. The principal companies have drawn up a list in which various articles are classed as risky, dangerous, and very dangerous. Although the companies do not deign to impart to assurers the classification which they adopt, they are not slow to avail themselves of the clause often inserted in policies, to the effect that the goods insured are declared not to be dangerous. It is asked how is any one to tell whether a thing ought to be described as dangerous when the companies do not inform assurers what they include under this heading, and what they do not. The question is a nice one in regard to chemicals, as we know in this country in shipping, railway rates and canal tolls. Considerable difference of opinion exists as to how certain goods ought to be classed, manufacturers and insurance companies often taking very different views of the risks attached to the manufacture and storing of certain chemicals. The importance of a systematic and reasonable classification is therefore all the greater. Otherwise the companies in the case of accident are able to disclaim a call for payment, on the ground that the declaration was incomplete or incorrect, and leave the assurer without redress.

Laboratory Notes.

ANALYTICAL, PHYSICAL, AND TECHNICAL.

ACTION OF ALCOHOL ON NESSLER SOLUTION.

According to the researches of L. de Koninck, the sensitiveness of Nessler solution as a reagent for ammonia is much diminished by the presence of alcohol. As much as one-sixth part of alcohol materially modifies the appearance of the mercuric precipitate.

WATERPROOFING BUILDINGS WITH PARAFFIN WAX.

The following is an account of a method of waterproofing the exterior walls of a building which has been tried in New York. The work is done by two men on a suspended painters' stage. The wall surface is first heated by stoves, which are essentially sheet iron boxes 24 inches square and 4½ inches thick, having one of their largest sides closed only by a netting of ½-inch wires. These stoves hang freely from a light chain, and are filled with burning charcoal, which, when the open side is opposed to the wall surface heats it sufficiently in from five to ten minutes. The paraffin is kept melted over a charcoal fire at a temperature of about 150° Fahr., while the wall surface is warmed to about 180° Fahr. to receive it, and is afterwards treated to a brief roasting to about 200° Fahr. The common hard bricks absorb a variable quantity of paraffin proportional to their porosity and temperature; the average absorption being about 2lbs. per square foot. Parts of the wall inaccessible by the heating stove, mouldings, cornices, and so forth, are heated by the ordinary painters' blow-lamp. A little creosote is added to the paraffin, to prevent vegetable growths. Inasmuch as the wax is caused to penetrate into the masonry, where it sets when it reaches a depth at which the superficial heating has not raised the temperature of the brick or stone above its own melting-point, it is claimed that the treatment is hardly visible from the outside, while it renders any wall perfectly and permanently impenetrable by moisture.

THE ANALYSIS OF KAINIT, OR SULPHATE OF POTASH.

The following is the official method of analysis adopted by American Agricultural Chemists: Dissolve 10 grammes of the pulverised salt in 300 c.c. of boiling water, add ammonia to slight excess, then a sufficient quantity of ammonium oxalate to throw down all lime present; cool, and make up to 500 c.c., mix thoroughly, and filter on a dry filter; take 25 c.c., corresponding to 0·5 grm., evaporate nearly to dryness and add 1 c c. of H_2SO_4 (1 to 1), evaporate to dryness and ignite to whiteness. There is no need to apprehend loss of potash by volatilization owing to its being in the form of sulphate; dissolve the residue in hot water plus a few drops of hydrochloric acid, and add 15 c.c. of platinum solution. In the analysis of high-grade sulphate and of double-manure salt (potassium sulphate, magnesium sulphate, containing about 27 per cent. of potassium oxide), make up the solution as above, but omit the precipitation, evaporation, &c.; take an aliquot part equal to 0·5 grm. and add 15 c.c. of platinum solution. In all cases special care must be taken in the washing with alcohol to remove all the double platinum-sodium chloride if present. The washing should be continued some time after the filtrate is colourless. Twenty-five c.c. of he am monium chloride solution are employed instead of 10 c.c., and the 25 c.c. poured through at least six times to remove all and chlorides. Wash finally with alcohol; dry and weigh as u

Organic Compounds.—In case the potash is contained in compounds, like tobacco stems, cottonseed hulls, &c, weigh grms., saturate with strong sulphuric acid, and ignite in a destroy organic matter. Add a little strong hydrochloric moisten the mass, and warm slightly so as to loosen it in the proceed as above.

KIESELGUHR.

Mr. Parry has published three analyses of fossil meal becaus not seen any published analyses. We know of two which within the last twelve months. His results are not considere sentative of high-class kieselguhr, but as they certainly repres fair samples we give them for reference:—

	No. 1.	No. 2.
Moisture	5·03 ..	7·68 ..
Loss on ignition (almost entirely organic)	3·41 ..	3·11 ..
Silica (insoluble)	86·10 ..	85·00 ..
,, (soluble)	2·44 ..	2 50 ..
Fe_2O_3 and Al_2O_3	2·40 ..	1 50 ..
Alkalies	0·40 ..	— ..

TESTING SOFTENED BOILER WATERS.

After alkali has been added to boiler water to soften it, the constitute handy and rapid tests as to whether enough or t alkali has been added:—

(*a*) If the water, after ebullition, has not an alkaline reacti 10 c.c. of the water from the boiler, cooled and filtered, an drops of an alcoholic solution of phenolph'halein (2 parts alcohol).

1. The water remains colourless. The addition of alkali insufficient, and must be increased.

2. The water turns red, but is decolorised by two drops normal hydrochloric acid. The water is normal.

3. The water is reddened and retains the colour after the ad two drops of semi-normal hydrochloric acid.

The quantity of alkali added is too great and must be dimini

(*b*) The water has an alkaline reaction after boiling.

In this case 20 c.c. of the fitered water are mixed with four a solution of calcium chloride (1:20).

There appears an abundant precipitate of calcium chlorid does not disappear on the addition of four drops of semi-norma chloric acid. The addition of alkali has been excessive, and reduced.

2. There appears after a short time only a few flocks, dissolve on the addition of four drops of semi-normal acid. T is normal.

3. There appears no precipitate.

Take a fresh sample of the filtered water, add five drops of of soda (1:5) and allow it to stand for one hour. If the w remains clear it is normal, but if a precipitate appears more s be added to the water which has to be purified.

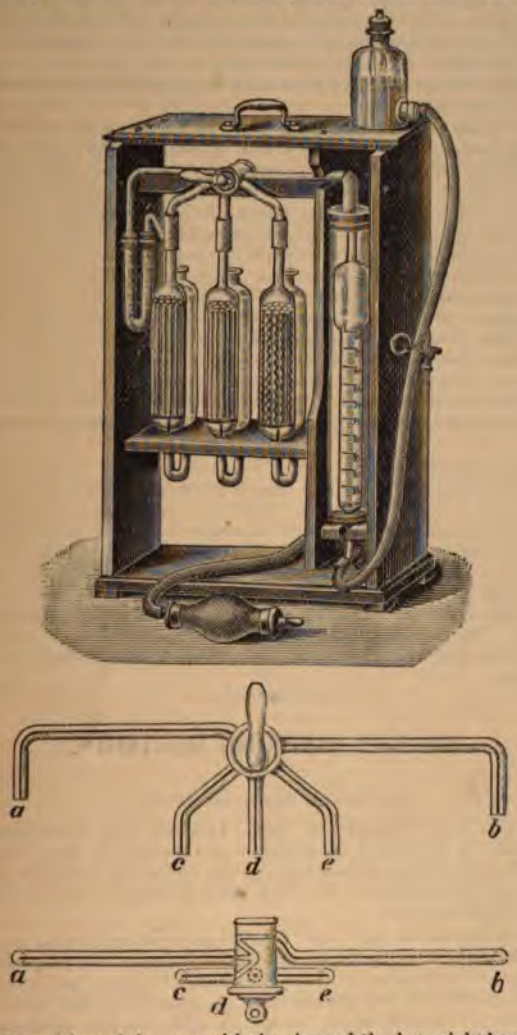
AUTOMATIC PIPETTE FOR BABCOCK'S TEST.

An ingenious pipette has been introduced by Herr Emil Gr William-street, New York, in connection with the Babcock

The accompanying cut speaks for itself. In using th compress the rubber bulb sideways with thumb fingers of the right hand until the walls of bulb m dip the end of the pipette into the milk about half and let the bulb go by holding the pipette with hand only until the milk ceases entirely to flow. gently, and empty the contents by pressing the rub If the bulb is compressed properly, there will be overflow, and from 12 to 20 samples can be take becomes necessary to detach the rubber bulb to e overflow. A like pipette can be used also for meas acid, which should be poured first into a graduate glass, and from there the exact quantity can be d means of this pipette according to above direction ever, it will be advisable to change occasionally th connection (a piece of black rubber tubing will ans well) which keeps the pipette in the overflow bulb, a will corrode the same in the course of time, but if th is rinsed with cold water before putting same a connection will hold out a long time It is also des clean the milk pipette with warm water after all th for the day have been taken. This pipette is guarantee exactly 17·6 c.c., the surplus of $\frac{1}{10}$ of c.c. being necessar are always a few drops of the liquid adhering to the

A MODIFIED ORSAT'S GAS APPARATUS.

A useful modification of Orsat's gas apparatus is being introduced by essrs. Ehrhardt and Metzger, of Darmstardt. The improvement is the distribution tap. We illustrate the modified apparatus intact, and so a detailed illustration of the tap itself. The three central channels, *d*, and *e*, stand out and are easily joined to the absorbers. The



ng left hand branch is open with the air, and the long right hand con-ction is coupled to the burette. The tap is so constructed that the rette is connected with the open-air for filling and emptying, and it n also be made to connect severally and solely with each absorber. ie Orsat has always abounded with a conglomeration of leaks, and s latest improvement is very welcome.

THE PRODUCTION OF NITRATE IN CHILI.

THE following table shows the *Officinas* which have produced the largest quantities of nitrate of soda during the quarter year ended arch last. Only works producing 100,000 quintals and above are en. The returns are expressed in Spanish quintals of 101 lbs. avoir.

Rosario de Huara	403,575
Santa Luisa (Taltal)	318,500
San Jorge..	267,371
Ramirez	258,850
Santa Isabel (Toco)	218,150
Agua Santa	192,700
Primitiva	158,270
Tres Marias	147,000
Santa Rosa de Huara	135,410
La Palma	132,000
Constancia	131,400
Cala-Cala	122,260
Antofagasta	114,000
Union	110,000

IMPORTS AND EXPORTS FOR MAY.

THE Board of Trade returns for May show that the improvement noticeable in April has not been sustained. The falling off is attributed in a large measure to the disturbed state of trade in America. Salt is still sent more largely to the British East Indies.

IMPORTS OF FOREIGN AND COLONIAL PRODUCE.

Articles.	Quantities. 1893.	1894.
Margarine ..... Cwt.	92,700	88,747
Copper Ore and Regulus .....Tons.	14,257	10,754
Hides, dry and wet..... Cwt.	86,482	80,757
Nitrate of Soda .....Tons.	22,253	14,264
Tallow and Stearine ..... Cwt.	160,908	117,012
Tin..... Cwt.	67,210	64,675

EXPORTS OF BRITISH AND IRISH MANUFACTURES.

Articles.	Quantities. 1893.	1894.
Alkali ..... Cwt.	551,453	461,062
Cement .....Tons.	43,988	48,120
Coal and Coke .....Tons.	2,728,694	2,923,055
Copper, all kinds ..... Cwt.	123,596	77,471
Iron and Steel .....Tons.	285,429	238,914
Chemical Manures ..... ,,	21,754	20,137
Oils, seed ..... ,,	7,147	5,645
Salt ..... ,,	68,291	83,518

THE GAS SUPPLY OF LONDON.

THE quality of the gas supplied to the City of London for the week ending June 2nd, 1894, was good. According to the report of Mr. W. J. Dibdin, chemist and superintendent gas examiner to the London County Council, the tests made at the various testing stations showed no deficiencies in illuminating power. The following figures have been prepared from the report, and show the average composition of the gas calculated on the mean test :—

Company.	No. of districts tested.	Illuminating power (in stand. sperm candles). Mean average.	Sulphur. Grains in 100 cb. ft. Mean average.	Ammonia Grains in 100 cb. ft. Mean average.	Sulphuretted Hydrogen
Gas Light and Coke Co.	14	16·28	9·07	0·45	Nil.
South Metropolitan Gas Co.....	6	16·71	10·91	0·41	Nil.
Commercial Gas Co. ..	2	16·3	6·9	0·4	Nil.

The standard gas supplied by these companies should have an illuminating power of 16 sperm candles, and contain not more than 22 grains of sulphur and 4 grains of ammonia per 100 cb. ft. of gas on an average of three days with a pressure of one inch between sunset and midnight, and six-tenths of an inch between midnight and sunset.

NOTICES.

LONDON AGENTS

Booksellers and Newsagents may now obtain supplies of
"THE CHEMICAL TRADE JOURNAL"
From
MR. JOHN HEYWOOD,
2, Amen Corner,
On usual trade terms. Paternoster Row, E.C.

FOREIGN REMITTANCES.

Owing to the inconvenience created by the various ways in which foreign subscriptions are remitted, we respectfully beg to inform subscribers that a *Crossed* MONEY ORDER is the most satisfactory method of remitting, both for them and ourselves. In the case of a Money Order, a letter advising us of same should always be sent, otherwise, owing to post-office formalities, much delay in tracing and acknowledging foreign remittances is inevitably entailed in this country.

THE MANUFACTURE OF LAMPBLACK.

THIS branch of the chemical industry is of a somewhat ancient date, but contrary to what one might suppose from this fact, it is far from having attained the degree of perfection of which other relatively modern industries can boast.

Until 1850 we may say that no important improvement had been introduced. However, about this time a new method for condensation of soot was invented, owing to which the lampblack industry acquired truly industrial developments. To aid this extension new material was found in the refuse of gas works and petroleum refineries, which made the old method hitherto employed empirically, based upon the employment of resin, unproductive. The field of scientific research which regards the formation and property of lampblack remained almost completely to be described. The analysis of solid products obtained from the imperfect combustion of some substances gave the following results :—

	Carbon.	Hydrogen.
Black from gas flame	99·1	0·9
Black from oil of turpentine	99·0	0 6
Black from natural gas of Pennsylvania	99·4	0·64

Irrespective of the value which soot from fires supplied with coal may have from the point of view of the extraction of lampblack, W. Forster demonstrates that the working of this product is also interesting from the agricultural point of view. This author found 11·55 per cent. of sulphate of ammonia.

To obtain lampblack from tar and hydrocarburets various arrangements have been invented and patented by Messrs. A. Pidelaserra, Binney, Schneller and Wisse, but as regards the application and working of which we have no accounts.

With regard to the manufacture of lampblack with paraffin oil, as a rule 100 kilograms give fifty to sixty cubic meters of gas. Each retort produces during twenty-four hours 300 to 400 cubic meters. The tar produced during gasification is sufficient for heating the retort. Each combustion apparatus is arranged according to the patent of Otto Thalwitzer, and consumes eight cubic meters per hour, giving 0·5 to one kilogram of lampblack, according to the way in which the lamp is regulated. The minimum production corresponds with the best quality of black, so that we may reckon that the production of lampblack of the finest quality represents 2½ per cent. of the paraffin, and may attain 5 per cent. when the quality required is less perfect.

Otto Thalwitzer invented a furnace in which direct combustion of the hydrocarburets is obtained. The substance pulverised in covered part of the vault in the wall runs directly into a long duct after having been burnt. The gas arriving in the condenser comes into contact with the pipes in which water circulates, and there deposits the lampblack held in suspension. Experiments made have demonstrated that it is possible to obtain 25 per cent. of a good quality lampblack, but the expensiveness of material has prevented general employment of the apparatus.

The best inventions dealing with the condensation of soot comprise, not only all the attempts to avoid the loss of black, but also to remedy the inconvenience caused in large towns and the mode of utilising the soot which escapes from the chimneys of some metallurgic works.

The experiments made can be divided into two classes. In one we have the expedient based upon the employment of a liquid or reagent, which tends to produce precipitation of the fine soot transported by the gaseous current, whilst in the other class similar results were studied by giving a wider superficies of condensation to the chambers.

Amongst the arrangements which belong to the first category we must, before all, mention some inventions specially regarding the manufacture of lampblack by Albert Lintner, of Weissensels. They consist in the aspiration of the gases of the condensation chamber through a series of other small compartments, on the side of which are alternate jets of water and steam, so that after being saturated with steam it encounters a shower of water, which conveys the black on to the pavement. The apparatus of Benoiste and Comolli is based upon similar principles.

M. P. Dewey considers it useful to make the smoke pass through petroleum, or some other oily substance, where the black is readily saturated and consequently retained. We cannot deny the utility of this method, but probably the expense and the danger of fire will prevent its application.

Gontard endeavours to obtain the same result by rotary discs arranged in the smoke ducts, which dip into the liquid so that the gas may come into contact with the bathed surface.

O. Wasserman applied the principle upon which the Segner wheel is based to aspire the gas and humect the solid particles contained. Then the gaseous current is passed across a wire gauze to separate the soot completely.

L. Rossler and H. Reinhard employ an arrangement similar to the spiral reflector already successfully tested by Werner Siemens. For this, whilst the latter utilises centrifugal motion to agglomerate the carbonaceous particles, the authors in question convey the smoke across a tube in which there is a spiral animated with a whirling motion, and acting on the centre of the liquid, which causes condensation.

To increase the condensation area of the lamp-black compartment, E. Schlosser and E. Ernst employ a spiral tube with air and fresh water circulating inside. The system invented by B. Rosing seems much more efficacious, which consists in fixing in the pipes parallel with the current of gas a number of wires suspended loosely to a network spread above. On these wires the carbon and ash are deposited ; they are then shaken off and collected from suitable openings, provided that the draught be suppressed.

Several other systems have been invented for the same object. We shall, however, content ourselves with mentioning the experiments of Messrs. Irvine and Mitchell regarding the possibility of obtaining rapid condensation of soot by means of an electric discharge. In a glass case, 5 by 4 by 4 feet, two iron plates are fixed furnished with points directed one against the other at a distance of two to three feet. With the exception of the extremities of the points, all the surface is coated with an insulating gum lac varnish. The case is filled with the products of combustion of resin oil The smoke is so dense that a light placed against the opposite side is invisible, and remains thus for two hours. The iron plates are in communication with a dynamo, and when the current is established the solid particles contained in the smoke are attracted to the points or repelled ; thus they are collected in two or three minutes, making the air clear. When electricity can be employed without great cost, this system is without doubt the best.

Another problem which is also of some importance to the manufacturer of lamp-black, regards the causes of explosions, which we sometimes have to bewail, in furnaces. The studies of Messrs. R. Holzvatt, E. Von Mayer, and Engler have demonstrated that the gases collected in the chamber present no danger from their nature. What is to be considered as the chief factor in accidents is the very fine soot carried with the gas, and which, becoming incandescent, causes from a distance the ignition of the inflammable mixture contained in the condensation chamber. The measures to be employed to prevent explosions consist, then, in removing this main cause according to the indications given by Engler.

RECENT CUSTOMS DECISION.

HYDRATED OXIDE OF IRON.

IN the matter of the protest of Read, Holliday and Sons, Limited, against the decision of the Collector of Customs at New York as to the rate and amount of duties chargeable on certain hydrated oxide of iron, imported November 22, 1893, the following is the opinion by General Appraiser Ham :—

The merchandise in this case consists of hydrated oxide of iron assessed for duty at 25 per cent. *ad valorem* under paragraph 76 N. T., but claimed to be entitled to exemption from duty as a crude mineral under paragraph 651, and alternatively as dutiable at not more than 10 per cent. *ad valorem* under paragraph 472, as waste, or at not greater than the same rate under section 4 as a raw or unmanufactured article.

At the hearing of the case the appellants appeared and presented a sample of the merchandise, stating it to be a bye-product used for the purpose of purifying gas.

The Appraiser reports that the article is an impure oxide of iron, and that the chemical analysis shows that it contains a proportion of carbonaceous matter. A chemical analysis was made of the article which verifies the correctness of the report of the local Appraiser.

The case seems to fall within the rule established in the case of Standard Varnish Works *v.* United States (59 Fed. Rep., 456), decided by the Circuit Court of Appeals, Second Circuit, January 12, 1894. That was a case covering candle tar, a residuum or a bye-product in the manufacture of candles, and it was held that this bye-product was a manufactured article. In the course of his opinion rendering his decision Judge Lacombe said : "The merchandise is not itself a raw material ; it is not found in nature ; and, although something left over in the manufacture of candles, it is no longer either the tallow or the animal grease, or the palm oil which were subjected to a manufacturing process in order to obtain the stearine for candles. It has been transformed by that very process. It has become something different from what it was before in character, in substance, in name, and use." The Court held in that case that the candle tar is a manufactured article, and not a waste.

Following the rule, as there laid down, we hold that the protest is not tenable. It is therefore overruled and the decision of the collector is affirmed.

Parliamentary Jottings.

THE ASHTON-UNDER-LYNE SEWAGE SCHEME.

House of Commons this week Mr. T. H. Sidebottom asked President of the Local Government Board the following question: application has been made to the Local Government Board Ashton-under-Lyne Corporation for borrowing powers to enable carry out separate sewage works on a plot of land known as on Farm, which is outside their own boundary and within the of the Dukinfield Local Board of Health; whether he is at the whole question of the disposal of the sewage of the Ashton-under-Lyne, Stalybridge, Dukinfield, and Audenshaw, valley of the river Tame, was fully inquired into during six ast Session by the Police and Sanitary Committee of this with the result that the Committee advised an amalgamation of authorities for sewage treatment; whether the Local Govern- oard have always supported such amalgamation of these es for sewage treatment; whether he is aware that the Cheshire Council and the other authorities named have opposed the pro- Ashton-under-Lyne to treat their sewage on Plantation Farm, the inhabitants of Dukinfield have unanimously and repeatedly in three public meetings and otherwise against Ashton-under- vage being brought in their midst, to the serious detriment of h of a populous district; and whether, in view of the fact that borrowing powers be granted to the Ashton-under-Lyne ion the carrying out of the recommendation of the Police tary Committee for the creation of a joint scheme of sewage for all these towns in the valley of the Tame will be rendered e, he will refuse this application?

Addison: May I also ask whether all the statements in my ad's question were not fully investigated and discussed at a iry during five days in August last; whether the Local ent Board were not represented by counsel and their witnesses nined at that inquiry; whether the Police and the Sanitary e referred to did not by their chairman say that if no agree- ld be come to on the joint scheme he should be in favour of g the local scheme; and whether it did not appear from the that Dukinfield would not be brought into the joint scheme a basis impossible for the larger authority of Ashton-under-

haw-Lefevre: Application has been made for borrowing the Ashton-under-Lyne Corporation for the acquisition of n Farm for sewage works. I am aware of the course advised lice and Sanitary Committee last Session with respect to the f the sewage of Ashton-under-Lyne and other towns referred Board have urged on the authorities such a combination as nittee favoured, and the Board offered the services of an at a conference for the purpose of assisting the authorities in a mutual arrangement. But the Town Council of Ashton- e declined to take part in such a conference on the ground reement between the authorities was impracticable. I am of the objections which have been urged to the scheme for der-Lyne. A local inquiry on the subject was held by one rd's inspectors, and extended over a period of five days, and uiry full opportunity was given to those who objected to the state their objections. Since the inquiry the Board have t to the Town Council certain matters in respect of which ne appeared to require revision, and the reply of the Town now under the consideration of the Board. As to the ques- other hon. member, the answer is in the affirmative. An s held, and, as I have pointed out, all the parts were inquired to the other question, I must ask the hon. gentleman to o suspend my answer till the Board have considered the

THE LABOUR COMMISSION.

and last report of the Royal Commission on Labour was o Parliament during the course of last week.

FOOD PRODUCTS ADULTERATION COMMITTEE.

owing gentlemen have been nominated to serve on the Food dulteration Committee:—Colonel Bagot, Mr. Bolitho, Sir n, Mr. Channing, Mr. Colman, Mr. Colston, Mr. Frye, Mr. Ir. M. Healey, Mr. Jeffreys, Mr. Kearley, Mr. Lambert, nkett, Sir H. Roscoe, Sir M. Stewart, Colonel Warde, and gh.

RUBBISH IN THE CANAL.—Mr. Humphreys, from the essrs. Grundy, Kershaw, and Co, solicitors to the Ship pany, attended at the Manchester County Police-court last pplied for a summons against a person for tipping rubbish idgewater Canal, part of the Ship Canal undertaking, be- brook and Stretford. The application was granted.

THE FLASH-POINT OF MINERAL OILS.

IMPORTANT DISCUSSION.

AT the General Meeting of the Edinburgh Chamber of Commerce, held last Tuesday, among other business, a discussion was raised on the desirability of raising the flash point of mineral burning oil to 100°F. The Secretary, at the outset, read a resolution adopted by the Manchester Chamber of Commerce declaring the desirableness, in the interests of the public safety, of the flash point being so raised. Mr. David Harris, Granton, in opening the discussion, said that the Americans and Russians had flooded the world with petroleum, and in the meantime the Scottish industry was languishing. Some of their friends gave out that the movement in the matter was in the interests of the Scottish mineral oil industry. That was not so, for the reason that the total amount of capital in the trade was represented by about 100 millions sterling, the Americans having something like 60 millions, while the balance was represented in Russia, Rangoon, in Trinidad, and some of the South American and Canadian oilfields. It was, notwithstanding, an important Scottish industry, and even if the alteration were made it would not benefit the Scottish industries appreciably. The Americans and Russians were quite prepared to send to this country oils of the flash-point which the Chamber was asked to memoralise for. For long the question of the flash-point of oil was on a satisfactory basis so far as Great Britain was concerned, the Government decreeing that it should have a flash-point of 100° Fah. Proceeding to discuss the process of testing oils, he said that by Sir Frederick Abels close test it flashed at 73°, and in the open test at 100°. Unfortunately, without going to the experts of the country, Sir Frederick Abel was consulted by the Government, and 73° was fixed as the limit at which oil might be brought into the country. Subsequently he maintained that the temperature gave off an inflammable vapour, and that the danger was enormously increased if they lighted a lamp when it was but half full. He then stated that numerous accidents were caused by the low flash-point of illuminating oil, and held that it was a most proper question for the Chamber to consider, whether in relation to trade or security to the citizens. He concluded by moving that it was desirable in the interests of the public safety to raise the flash-point of illuminating oils from 73° to 100° Fah., and that the Chamber petition in favour of a Select Committee or Royal Commission to consider the matter. (Applause.)

The Chairman (Sir Thomas Clark), in seconding the motion, said that, as an insurance director, he felt deeply interested in the matter. No doubt a great many of the fires were the outcome of the bad quality of the oil. It was not a question of protection of trade, but a question of the protection of life.

Mr. Young, of the Linlithgow Oil Company, said that, so far as he could understand, experts differed as to the testing process of the oil. Several questions had been asked in the House of Commons during the past few months about the matter of the flash-point of illuminating oil, and the appointment of a Select Committee had been promised to inquire into the whole question, but he was afraid that the present Parliament would run its course, or, at all events, the Session would come to an end, and no Committee would be appointed. It was very desirable that, if anything was to be done, it should be done quickly. (Applause)

In reply to a question, Mr. Harris said the flash-point of the Royal Daylight oil, which was most commonly sent from America, had a flash-point of 77. He mentioned other oils which had flash-points of 76, 78, 98, 106, and 110. The Russian oils went down to 84 and 86. Councillor Pollard asked whether representation could be made to the Board of Trade. Mr. Harris replied that Sir Frederick Abel, having committed himself, would not answer letters now, though he had been appealed to by experts. It was an open secret that he had made a mistake and did not like to admit it. Any application made to the Board of Trade would go to him. In reply to Councillor Gibson, Mr. Harris said that to raise the flash-point to 100° F. would not increase the price to the Scottish manufacturer one iota, as it was to their interest to make it 120°. The effect on the Americans would be to start them utilising their light oils in gas making, and as a result they would make a little more profit rather than loss.

The motion was then put to the meeting and agreed to.

MILK ADULTERATION PROSECUTIONS.—On Wednesday last, Wm Broomhead, provision dealer, Hulme, Manchester, was fined 20s. and costs for selling milk from which 18 per cent. of fat had been abstracted —Josiah Fox, farmer, Meadow Wood Farm, Cromford, near Matlock, was fined £3. and costs for supplying a Manchester dealer with milk which upon analysis was found to have had 7 per cent. of fat abstracted and to contain 6 per cent of added water.—Alice Ann Rylance, provision dealer and milk seller, Hyde-street, Hulme, was fined 20s. and costs for selling milk containing six per cent. of added water.

ANSWERS TO CORRESPONDENTS.

J. G. M. (N.Y.)—It is a very close trade, and in a few hands. We have made inquiries, which have only resulted in learning of Messrs. Bryant and May, Fairfield Works, Bow, London, E.

C. C. Co. (Beston).—You will not be able to get it yet. They are not published until after the *complete* specification has been accepted. The list of those accepted is published from time to time. If we come across it we will advise you, and, if you care to take the trouble, you might remind us by an inquiry in the course of the next month or two.

E. G.—It will answer our purpose.

F. and C., Ld.—Thanks for your advice as to our last.

Lacroix.—Why not try it?

Reports of Companies.

THE ELECTRO-CHEMICAL CO., LIMITED.

The statutory general meeting of this company was held on Tuesday, at the Cannon-street Hotel, E C. Colonel Holland, C.B , presided, and stated that 16,745 preference shares, representing £83,725, together with 14,000 ordinary shares, representing £70,000, had been allotted, making in the aggregate a total capital of £153,725. Further applications from preference shareholders were still coming in, and were being considered as they were received. The board had ample capital subscribed for all the requirements of the company. The purchase of the company's patents was completed, and they were in course of being transferred to the company. Up to the present time, however, no money had been paid to the vendor, he agreeing to take £25,000. out of the £30,000. to be paid to him in shares. It was proposed at first to lay down machinery to manufacture annually 5,000 tons of caustic soda and bleach. Several sites for the company's works near coal, salt, and lime fields in Cheshire, North Wales, and Lancashire had been offered to the company, and carefully inspected by Mr. Leith and the directors, who were negotiating for the purchase of one of these sites. Negotiations were in progress for the sale of some of the foreign patents. They had every reason to believe that by the new process they would be able to manufacture caustic soda at 50 per cent less than the market price. The patents had been carefully secured to the company.—On the motion of Mr. Marcus, Colonel Holland's election as a director of the company was confirmed.—After the appointment of auditors, a vote of thanks was given to the chairman.

THE HOLMES OIL CO., LIMITED.

The directors of this company report that on the past year's workings, after providing for the maintenance and repairs of works and mines, the balance at the credit of profit and loss account (including balance brought forward from the previous year) is £837 11s. 6d , which the directors recommend to be carried forward to next year. The directors regret the result of the year's working, and have to report that during the first five months of the year the works were being profitably carried on, the yields of ammonia and oil being satisfactory. After that period they gradually decreased, when it was considered necessary to renew the retorts. It was hoped at the time that only part of the retorts would require to be renewed, but as the work proceeded it was found essential in the interests of the company to renew them all. These renewals were completed in the middle of May at a cost of £4,779. 8s. 1d., which will be gradually met out of revenue. The yields of oil and ammonia are now very much improved, and the directors are confident that considerable benefit will be derived from this outlay. The directors have also to report that ammonia, the principal product of the company, was during the latter part of the year exceptionally high, but owing to the small production caused through the renewal of the retorts the company did not get any advantage from the increased prices. They are glad to say that these prices are being fully maintained.

Recent Trade Mark.—There appears among the trade marks registered at Washington on May 15th one by the Northumbrian Chemical Company, Limited, Newcastle-on-Tyne. It is the representation of a lion statant.

A Coke Combine.—In addition to the combination which has been in operation for some time in the Durham coal trade, to fix the selling prices of gas and other descriptions of fuel, a movement has been set on foot to deal with coke in the same way. A meeting was called and held on Monday of coke makers, whose chief production is for the Cleveland and Cumberland iron trade. Certain producers of special brands of coke, and also other classes, refuse at present to join the combination, but most of the leading coking firms have, it is said, given in their adhesion, and were at the meeting. From what can be gathered, there was some difficulty encountered because of the variation in qualities of coke, and the diffierent relative values. Matters in connection with fixing prices in these cases are not concluded, but good recognised brands of furnace coke were arranged to be sold at a minimum which does not differ materially from current rates.

Market Reports.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, Tues

The Scotch miners, voting by ballot, and therefore pres voting according to their own convictions in the matter, have by a majority of nearly two to one to come out on strike agai recent reduction of the masters. This consummation seems n evitable, and consequently all industries are looking forward to a of dislocation, some of the largest of them preparing to cease ope altogether. The chemical works may manage to rub along in a way, but the mineral oil companies will be grertly hampered. the strike prove protracted, and especially should the shale miner common cause with the coal-diggers, which is most likely, some works will be closed. The production of sulphate of ammonia interrupted, with the effect of course of maintaining a certain firmness. To-day the value is £14. 5s , f.o.b Leith, but there much passing, and operators don't know what to think or how so much depends on the events of the next few days. chemicals are unchanged, and therefore weak and inert, thoug no further recession of values so far as has transpired. Mine also unchanged, and little doing except stocking. American cru tificates have made a further rise (now 90 cents) which is so far able to the outlook of the Scotch market.

Chief prices current are :—Soda crystals £2. nett, Tyne ash 48/52° £3. 12s. 6d. to £3. 17s. 6d. nett, Tyne; white 48/52° £4. 10s to £5. 5s. nett, Tyne; alum in lump £5. 10s. nett, Gl caustic soda, white, 74° £9. 17s. 6d., 70/72° £8. 17s. 6d., 60/62 and cream 60/62° £7. 15s., all nett, Liverpool; bleaching £7. 10s., nett, Tyne; saltcake, 17s. 6d.; borax, English £22. 10s., and boracic acid, £32. 10s. nett, Glasgow; bicarbo soda, 5-cwt. casks, £6. 10s., and 1 cwt. casks £6. 15s. nett, Liv bichromate of potash, 4½d. nett, for Scotch and English deliveri export, 4¼d. nett, f.o.b. Glasgow); bichromate of soda, 3¾d. n Scotch and English deliveries (for export, 3½d. nett, f.o.b. Gla chlorate of potash, 7¼d. less 5%, Liverpool; nitrate of soda, sulphate of ammonia, £14. 5s. prompt, f.o.b. Leith ammoniac, first and second white, £39. and £37. nett, any sulphate of copper, £15. 10s., less 5% Liverpool; paraffin scale, hard soft 1⅞d. to 2d. per lb.; paraffin wax 120° semi-refined 2⅜d. to paraffin spirit (naphtha), 3½d. to 4d. per gallon; paraffin oil (bu standard No. 1 grade, 5d. at works, for Scotch buyers (English ½d to ¾d. lower); ditto (lubricating) 865° £3. 10s. to £3. 1 885° £4. to £4. 15s., and 890/895° £4. 15s. to £5. 10s. imports of raw sugar at Greenock were 8,798 bags.

TYNE CHEMICAL REPORT.

Tuesd

Chemicals continue quiet, though there are more anticipat early improvement when the American tariff uncertainty is re Soda crystals, £2. 1s. per ton. Caustic soda, high-test, £10. £10. 15s. per ton. Sulphur, £3. 17s. 6d. per ton. Bleach, and £7. 10s. per ton.

Bleaching Powder, softs, £7. 10s. per ton, nett; hards, £7. 15s. p nett; caustic soda, 76/77%, £10. 10s. per ton, nett; do., 70 per ton, nett; recovered sulphur, 2 cwt. bags, £3. 17s. 6d. per ton soda ash, 48%, £3. 12s. 6d. per ton, nett; do., 52%, £3. 1 per ton, nett; do., 56%, £4. per ton, nett; alkali, 36%, £ per ton, nett; white alkali, 48%, £4. 10s. per ton, nett; do., 50 15s. per ton, nett; do., 52%, £5. 5s. per ton, nett; hyposulp soda, 5-7 cwt. casks, £5. per ton, nett; do., 1 cwt. kegs, £ per ton, nett; silicate of soda, 75° Tw., £2. 17s. 6d. per ton, do., 100° Tw., £3. 12s. 6d per ton, nett; do., 140° Tw. per ton, nett; soda crystals, casks, £2. 1s. per gross weight; do., 2 cwt. bags, £2. 1s. per ton, chlorate of potash, 7½d. per lb., less 6%; pearl hard £3. per ton, nett; pure white sulphate of alumina, £4. 2 per ton, nett; blanc fixe, £7. 10s. per ton, nett; chloride of b £7. 10s. per ton, nett; carbonate of alumina, £28. 15s. pe nett; aluminate of soda, £33. 15s. per ton, nett; in 5 ton lots 10s. per ton, nett.

SALT.—South Durham salt scarce and firm at 10s. and 1 per ton, f.o.b. Tees.

COAL.—The coal trade is firmer, the probable strike in S tending to stiffen prices. Work is brisker at the collieries, and f put is being made in the majority of cases. Best Northumbrian 10s. 6d.; second qualities, 9s and 9s. 6d.; small steam, 4s. 9d. a best Durham gas coal, 7s. and 7s. 6d.; bunker coal, quiet, 7s. in better demand, 13s. and 14s. per ton.

TAR AND AMMONIA PRODUCTS.

nzols are much the same as last week: 50/90's, perhaps, being a halfpenny firmer. Crude carbolic acid, 60%, is firm at 1s. 9d., crystals, 40%, remain steady at 6¼d. Crude naphtha is un- d at 5¾d., and solvent at 1s. 3d. Pitch is firm at 31s. 6d., f.o.b. Coast.

phate of ammonia is steady, with a tendency to slightly easier . This tendency is chiefly due to the movements of "bears," ate being as scarce as ever. Beckton is now quoted £14., on outside makes £14. 2s. 6d., Liverpool £14., Hull £14., and £14. 2s. 6d. to £14. 5s. In the hope of a decline in value, s are naturally holding their hand.

MISCELLANEOUS CHEMICAL MARKET.

siness in the alkali trade continues fairly active: there is little tion to report in values generally. In bleaching powder there is brisk demand for export at £8. to £8. 5s. per ton, hardwoods, ; for home trade, price is still £7. 10s. nett per ton, f.o.r. makers' s, and firm thereat. Caustic soda is in better request, and current tions, subject to usual variations, according to market, are as vs:—f.o.b. Tyne, 77%, £10. 15s.; f.o.b. Liverpool, 74%, 7s. 6d.; 70%, £8. 17s. 6d.; 60%, £7. 17s. 6d., cream, 60%, 5s. per ton, 10-ton lots and upwards. Chlorate of potash and are slightly easier from resellers. For alkali, 58%, there is little, y, improvement in position, and the price is still ruling low at s. 6d. to £3. 5s., bags, makers' works. Soda crystals flat, at s. Sulphate of copper continues in good demand at £15. 5s. to 10s. per ton, f.o.b. For brown and grey acetate of lime there irmer market, both for prompt and early delivery and a tendency ds an advance in price is noticeable. Acetate of soda quiet at 10s., c.i.f. Suguar of lead difficult to move, and prices eak: foreign white is quoted £26. 10s, c.i.f., English white , grey £19., brown £16. per ton. Nitrate of lead almost eable, and price nominally £18. per ton. White powdered ic firmer at £14. 5s to £14. 10s. Garston, etc. Potash, ic and carbonate, moves readily, and prices are unchanged. onia salts continue firm, and in good request. Muriate sells at £24. per ton for grey, and £27. 10s. for white. Carbonate: for lump, and 4d. for ground. Salammoniac: 37s. and 39s. per Oxalic acid steady at 3⅛d. per lb.

THE METAL MARKETS.

NDON, WEDNESDAY.—Pig iron, dull: Scotch warrants closed s. 10d., Middlesbrough 35s. 4½d. cash, and hematite 43s. 10d. er, inactive: Chili bars, G.O.B.'s and G.M.B.'s, closed at 10s. to £38. 15s. cash, and £38. 17s. 6d. to £39. 2s. 6d. three hs. Tin, weaker: Straits closed at £70. 2s. 6d. to £70. 12s. 6d. and £70. 12s. 6d. to £71. 2s. 6d. three months; Australian, 15s.; English ingots, £73. 15s. to £74. Lead, quiet: Spanish, 2s. 6d.; English, £9. 3s. 9d. to £9. 5s. Silesian Spelter, ordinary, 10s. Nickel, 1s. 8d. Antimony, £33. Quicksilver: First s, £6.; second hands, £5. 19s. *Copper shares*, quiet: Cape, to 1 7/16; Copiapo, 1⅝ to 1¾; Libiola, 2⅞ to 3⅛; Mason and y, 2⅜ to 2⅝; Rio Tinto, 13¼ to 13⅜; Tharsis, 4 7/16 to 4 9/16.

OLVERHAMPTON, WEDNESDAY.—Business a shade more e. The lowness of consumers, crude iron stocks led to larger iries. In consequence of this increased business and anticipated buying for next quarter pig iron rates were slightly firmer: local were 55s. to 57s., medium 41s, and common 37s. to 38s., hampton pigs 39s. 6d. to 40s., and Derbyshire 40s to 41s. 6d. hed iron steady, but no conspicuous demand; merchant bars 5s. to £6. 10s., common £5. 10s., and black sheets (doubles) anged.

LIVERPOOL OIL AND COLOUR MARKET.

WEDNESDAY.

ILS.—Palm oil is steadier, and, owing to scarcity, £21. 5s. to . 10s. per ton transit is now obtainable on spot. Forward values irtually unaltered. Olive is steady at £28. 10s. to £36. per tun, is only offering in limited quantity. Linseed remains unaltered last week's quotations, but Liverpool makes are inclined to be r. Cottonseed is being steadily held at 21s. to 21s. 6d. per cwt. Liverpool refined. Castor oil is firm: there is little good seconds utta offering, and spot value is 2 9/16d.; first pressure French is r at 2 1/16d. to 2⅛d. per lb., store. Tallow is quiet to dulness, prices are unaltered. Rosin is steady, with a fairly good demand— ations are: common 3s. 9d., medium 4s. 4½d. to 6s., fine 7s. to r cwt. Whilst enjoying a satisfactory inquiry, spirits of turpentine nue steady at 24s. per cwt. Petroleum is slow of sale, but no change in prices is to be recorded, 4¼d. to 5½d. still being quoted for American, and 3⅝d. to 3¾d. per gallon for Russian refined.

COLOURS are steady without alteration in prices. Ochres: Oxfordshire, common, £10., medium, £12., best, £15.; Derbyshire, common, 40s.; medium, 50s., best, 60s.; Welsh, best, 70s., seconds, 50s., and common, 18s.; Irish, Devonshire, 40s. to 45s.; French, J.C., 55s. to 60s.; M.C., 65s. to 67s. 6d. Umber: Turkish quiet; Devonshire, 50s. to 55s. White lead, and oxide of zinc unchanged. Venetian red, £6. 10s. to £10. Cobalt: Prepared oxide, 9s. 9d.; black, 9s.; blue, 6s. Zaffres: No. 1, 3s. 6d.; No. 2, 2s. 6d. Oxide of iron: Common, £6.; medium, £10.; finest, £20. Zinc oxide, £23. to £25.

HULL PAINT, OIL, AND COLOUR REPORT.

TUESDAY.

OILS.—The situation all round remains unchanged, including the weather, which leaves much to be desired. Oils generally are quiet, and little changed in prices. The import of linseed during the week is 8,289 quarters, and cottonseed 3,428 tons from Alexandria and 525 tons from the Brazils, also of rapeseed 3,230 quarters from Odessa and Taganrog. Amongst the principal imports up to June 1st, 1894, compared for the same time during 1893, are the following:—Linseed 192,081 qrs., against 135,205 qrs.; rapeseed 57,593 qrs., against 17,218 qrs.; cottonseed 113,012 tons, against 104,662 tons; olive oil 10,888 casks, against 5,588 casks; rape oil 3,793 casks, against 3,259 casks; oil cakes 9,186 tons, against 10,339 tons; tallow 8,959 cwts., against 16,387 cwts.; turpentine 4,352 barrels, against 3,532 barrels. Linseed oil quiet, 20s. 7½d. to 20s. 9d. spot; 19s. 3d. July-August; business done 18s. 9d. last four months, and Jan.-April at 19s. Export for the week 1,480 cwts. Refined cotton oil quiet, at 18s. 10½d naked spot, June-August, 19s 1½d.; November-April unchanged at 17s 9d. Export of refined for the week 2,540 cwts. Olive oil and rape oil unchanged. Castor oil, first pressure, 2¼d. to 2½d. per lb. Cod oil very dull, £17. to £19. per ton. Sod oil for tanners, curriers, etc., from £16. to £21. per ton. Pine oil 5s. 9d. per cwt. naked. Spirits of turpentine, 23s. 9d. Tallow is scarce. Engine and cylinder oils from 1s to 2s per gallon.

CAKES.—Linseed cakes steady; 95% pure £6. 15s. to £7. per ton; Russians, £6 15s. Oilcakes, £5 17s. 6d. Cotton cakes: Best makes in very fair demand for the time of the year; best makes, £4. 5s.; seconds dull at £4. Rape cakes: Black Sea, £3. to £3. 2s. 6d.; feeding cakes, £4 15s.

PAINTS and allied goods are in good demand. Prices are:—Venetian red dry, from £3. 15s. per ton; blue black, £4. 5s. per ton; mineral black, £4. 0s. Yellow ochre from £3 0s. per ton, casks free. White and red leads continue cheap and unchanged. Oxide of zinc, £22. per ton; oxide of iron, £9. to £18. per ton. Ready mixed paints in tins, £26. Common black varnish £5. 10s. per ton. Oak varnish from 5s. 6d. per gallon.

REPORT ON MANURE MATERIAL.

On spot there has not been much doing, but for forward a fair business has been passing at full prices For 75/80% Florida phosphate rock 8d. per unit is obtainable in cargoes c.i.f. to Continent, 1894 shipment, but for good United Kingdom ports 7¾d is full value. There are sellers of South Carolina River rock at 6¾d. per unit, and it is understood that less has been refused for large lines. Peace River rock is worth 6¾d. and 7d. per unit; Continental descriptions are unchanged. There are buyers of River Plate cargoes of bones of handy size, summer-autumn shipment, at £4. 12s. 6d. to good United Kingdom ports, but none offering at the moment. For large cargoes £4. 12s. 6d. to direct United Kingdom ports would probably be accepted. East India bone meal is dearer in all positions—£4. 17s. 6d. now asked for Bombay, autumn shipment, but buyers don't seem inclined to follow beyond £4. 15s. meantime. Crushed Kurrachee bones, late autumn shipment, have been selling at £4. 15s. ex quay Liverpool and ex ship Hull, that it is closing value. Nitrate of soda is quieter. On spot, good quality may be had at 9s. 6d. per cwt., and fine at 9s. 7½d. Due cargoes are worth about 9s. 1½d. per cwt., and later sailings 8s. 10½d. to 9s. 1½d. per cwt., according to position. There is nothing to report in miscellaneous material.

New Companies.

West's Gas Improvement Co., Ltd. CAPITAL £100,000. in shares of £20. each. This company has been formed to purchase the business of manufacturers of machinery and apparatus connected with gas making, formerly carried on at Miles Platting, Manchester, by

West's Gas Improvement Co., Ltd., now in liquidation, and to carry on the business of gas and mechanical engineers.

Atlantic Wharf Oil Storage Co, Ltd. Capital £50,000 in £1 shares. This company has been formed to acquire the Atlantic Wharf, Bow Common, and to make special provision for the storage of oil in barrels or bulk. The subscribers to the memorandum of association are:—G. B. Mee, 23, Leadenhall-street, E.C., merchant; W. A. Stearns, Waltham Cross, clerk; P. M. James, Harlesden, N.W., solicitor; T. E. Halfpenny, 52, Strahan-road, Bow, E., insurance official; J. A. Higgins, 11, Westbury-road, W, accountant; F. C. Morgan, Clapham-road, S W, clerk.

The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of George E. Davis and Alfred R. Davis, who report professionally upon the value of Chemical Patents.

APPLICATIONS FOR ENGLISH LETTERS PATENT.

Apparatus for ascertaining the Fluidity of several Oils at different Temperatures in one Operation. H. J. Phillips. 10,222. May 28.

Deodorizing and Purifying Sewage and Producing Electricity. W. H. Hill-Hartland. 10,228. May 28.

Apparatus for Cutting Indiarubber. G. Kay and the Ancoats Vale Rubber Company, Ltd. 10,247. May 28.

Extracting Precious Metals and Recovering the Solvents used. J. P. van der Ploeg. 10 332. May 28.

Apparatus for Removing Boiler Scale. J. C. A. Marckmann. 10,325. May 28.

Grinding Mills suitable for Paper Pulp Making. O. Zimmermann and G. Hagemann. 10 326. May 28.

New Violet Blue to blue Green Colouring Matters. J. C. L. Durand, D. E. Huguenin, and A. J. J. d'Andiran. 10,333. May 28.

Improved Filter. H. W. W. Hülsmann. 10,343. May 28.

Extraction of Gold and Silver Ores. C. M. Pielsticker. 10,344. May 28.

Kilns for Burning Limestone, Cement, etc. J. Briggs. 10,416. May 29.

Manufacture of Artificial Fuel J. S. and C. Cory. 10,438. May 29.

Improvements in Sulphur Candles. C. T. Kingzett. 10,445. May 29.

Improved Ejector Gas Burner. F. de Mare. 10,497. May 30.

Mantles for Incandescent Lighting C. de la Roche. 10,519. May 30.

Method and Apparatus of Saturating Liquids with Gases. J. F. Beins. 10,523. May 30.

Manufacture of Lead Pigments. C. P. Shrewsbury and H. R. Gregory. 10,531. May 31.

Manufacture of Salts of Ammonia. A. McDougall. 10,555. May 31.

Manufacture of Artificial Wood. C. Geige. 10,585. May 31.

Treating Blast Furnace Gases to Extract Alkaline and Ammonium Compounds like Iodides and Iodine therefrom. O. Imray. 10,589. May 31.

Manufacture of Chlorine from Hydrochloric Acid Gas and Nitric Acid by the use of Sulphuric Acid. J. Y Johnson. 10,604. May 31.

Production of Cement from Furnace Slag. J. P. Brasseur and N. Lambert. 10,607. May 31.

Mechanism for Removing Boiler Incrustation. W. J. Tranter and O. Howe. 10,614. June 1.

Deodorizing Petroleum and other Hydrocarbons. A. J. Tempère. 10,772. June 2.

Apparatus for the Manufacture of Compounds of Ammonia and Carbonic Acid. A. R. Davis. 10,781. June 2.

Manufacture of Compounds of Ammonia and Carbonic Acid. A. R Davis 10,782. June 2.

Gazette Notices.

BANKRUPTCY ACTS, 1883 and 1890.

Adjudications.

Bryant, Edmund Howard (trading as Bryant and King), St Thomas-street, Southwark, E.C., Spa-road, Bermondsey, S.E., Stafford, Northampton, and elsewhere, tanner and leather merchant.

Lloyd, David, Lloyd, Benjamin, and Lloyd, Thomas (trading as D. Lloyd Brothers), Oystermouth, near Swansea, lime burners.

IMPORTS OF CHEMICAL PRODUCTS
AT
THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending June 2nd.

Acetic Acid—

Holland,	50 pkgs.	
,,	8	Beresford & Co.
,,	43	A. & M. Zimmermann

Acetone—

Holland,	14 pkgs	A. & M Zimmermann

Alkali—

Belgium,	202 c.	Arnati & Harrison
Germany,	21 pkgs.	L. & I. D. Jt Co.

Alum—

Belgium,	24 cks	R. W. Greeff & Co.
Holland,	163 pkgs.	Ohlenschlager Bros.
,,	16	Beresford & Co.

Aluminium—

Germany,	2 c.	F. Braby & Co., Ld.

Ammonium Chloride—

Holland,	17 pkgs.	H. Lorenz
,,	4	Kaltenbach & Co.

Aniline—

Holland,	1 pkge.	Phillipps & Graves

Anthracene—

Spain,	70 pkgs.	Burt, Boulton & Co.
Holland,	178	,,

Antimony Ore—

N. Zealand,	2 t.	James & Shakespeare

Arsenic—

Melbourne,	80 pkgs.	Hopcraft & Co.

Asbestos—

Italy,	£35	Schenker & Co
,,	84	Mory & Co.
France,	22	,,
Italy,	390	Brit. Asbestos Co. Ld.
,,	57	G. S. N. Rly.

Barium Chloride—

Holland,	5 pkgs.	Petri Bros.

Barytes—

Holland,	44 cks.	Colthurst & Harding
,,	4	J. L. Lyon & Co.
Germany,	57	D. Storer & Sons
Belgium,	43	W. Harrison & Co.

Boracic Acid—

Italy,	12 pkgs.	Horne & Co.
Germany,	28	F. Boehm

Camphor—

Hong Kong,	116 pkgs.	S. Figgis & Co.
Japan,	125	Soundy & Sons
Germany,	1 tub	Scrutton's, Ld.

Caoutchouc—

France,	3 c	Van Oppen Co.
,,	16	H. Johnson & Sons
Germany,	20	B. & F. Wf. Co
,,	20	L. & I. D. Jt. Co.
Zanzibar,	34	,,
U. States,	22	Williams, Torrey & Co.
,,	1	Anderson, Weber & Smith

Carbolic Acid—

Spain,	36 pkgs.	Burt, Boulton & Co.

Castor Oil—

Italy,	20 cs.	Stebbing & Co.
E. Indies,	350	H. A. Litchfield & Co.
,,	1,000	Kiero, Moakes & Co.
,,	24	A. Laming & Co.
,,	5	Langton, Edden & Co.
,,	10	Hodgkinson, Preston & Co.

Caustic Potash—

France,	4 drs.	Carey & Sons
,,	200 c.	F. W. Berk & Co.
,,	23	L. & I. D. Jt. Co.
Holland,	99	J. M. Steel & Co.
France,	102	Spies Bros. & Co.

Cellulose—

Denmark,	72 pkgs.	M. Dk. Co.

Chemicals *(otherwise undescribed)*

Holland,	10 pkgs	J. Owen
Belgium,	20	Union L. Co, Ld.
Germany,	32	T. H. Lee
,,	74	L. & I. D. Jt. Co.
,,	95	A & M Zimmermann
,,	£10	Rosenberg, Loewe & Co.
,,	20	F. W Berk & Co.
,,	10	Pickford & Co.
,,	5 pkgs.	Phillipps & Graves
,,	2	Craven & Co.
U. States,	39	W. H. Smith

Cream of Tartar—

Italy,	10 pkgs.	Fellows, Morton & Co.
,,	15	B. Jacob & Sons
Holland,	18	Kirkpatrick & Co.
Spain,	16	W. C. Bacon & Co.
France,	3	Ross & Deering
,,	12	B. & F. Wf. Co.
,,	5	F. C. Devon & Co.
,,	5 cks.	C Christophersen & Co.

Dextrine—

Germany,	100 bgs.	J. Barber & Co.
,,	12 pkgs.	City Coml. Wf., Ld.
Holland,	10	J Barber & Co.

Dyestuffs—

Annatto

Denmark,	4 pkgs.	R. J. Fullwood & Co.

Argols

Greece,	18 pkgs.	Prop. Fenning's Wf.
Italy,	1,862	B. Jacob & Sons
,,	20	Thames S. T. & L. Co, Ld.

Cochineal

Canaries,	20 pkgs.	Marshall & French

Cutch

E. Indies,	61 pkgs.	Arracan Co., Ld.
,,	200	Union L. Co.
Rangoon,	500	J. & G. Bulloch & Co.
,,	266	Leach & Co.
E. Indies,	500	Ross & Deering
China,	400	A. B. Curtis & Co.

Divi Divi

E. Indies,	594 pkgs	Culverwell, Brooks & Co.

Extracts

France,	95 pkgs.	B. & F. Wf. Co.
Denmark,	1	M. D. Co.
,,	5	R. J. Fullwood & Co.
,,	32	A. F. White & Co.
A. Turkey,	88 cks.	McKellar, Carr & Co.

Indigo

E. Indies,	15 chts.	Croysdale & Co.
,,	80	L. & I. D. Jt. Co.
,,	67	R. von Glehn & Sons
,,	21	Park, Macfadyen & Co.
,,	1	Benecke, Souchay & Co.
,,	34	E. Bower & Co.
,,	35	Arbuthnot, Latham & Co.
,,	56	Patry & Pasteur
,,	52	Stansbury & Co.
,,	10	Pitt & Scott

Logwood

Jamaica,	21 t.	S. Dobree & Sons
,,	47	Park, Macfadyen & Co.

Myrabolams

E. Indies,	667 pkgs.	Hoare, Wilson & Co.
,,	1,655	J. Graves
,,	469	J. P. Alpe & Co.
,,	2 043	L. & I. D. Jt. Co.
,,	2,197	Baxter & Hoare
,,	730	J. & J. Williamson & Son

Orchella

Portugal,	16 pkgs.	Prop. Bull Wf.

Saffron

Spain,	1 pkge.	C. Brumley

Sumac

Italy,	500 pkgs.	Bevington & Sons
,,	40	Saddington & Co.
,,	500	Harris Bros.
,,	1,000	J. Kitchin, Ld.
,,	56	Blundell, Spence & Co., Ld.

Tanners' Bark

Natal,	9 t.	Ebell & Co.
Belgium,	16	Leach & Co.
Germany,	81	Devitt & Hett
N. Zealand,	20	Beresford & Co.
France,	13	L. J. Levinstein & Sons

Turmeric

E. Indies,	89 pkgs.	Major & Field
,,	30	J. P. Alpe & Co.
,,	67	W. M. Smith & Sons
,,	509	L. & I. D. Jt. Co.
,,	98	J. Graves
,,	159	G. & H. Green
,,	103	W. Hutchinson & Co.
,,	100	Anderson, Weber, & Smith
France,	40	Hoare, Wilson, & Co.

lonia
rkey, 61 t. A. & W. Nesbitt
uffs *(otherwise undescribed)*
am, 100 pkgs T. H. Lee
a—
any, 300 pkgs. Seaward Brs.
h Chalk—
£40 J. Kitchin, Ltd.
100 W. Harrison & Co.
se—
any, 25 pkgs. 202 c. Prop. Chmbln.'s Wf.
200 200 c. J. Barber&Co.
nd, 50 50 Prop. Sun Wf.
ites, 2,118 2,120 L. Sutro & Co.
250 250 Seaward Brs., Ltd.
996 996 Barrett, Tagant, & Co.
200 200 Williams, Torrey & Co.
50 300 Fellows, Morton & Co
350 1,580 L. Norman & Co., Ltd.
50 282 J. Keiller & Son, Ltd.
100 560 W. E. Palmer
450 2,300 Pickford & Co.
100 580 R. G. Hall & Co.
50 300 Deering & Robottom
50 270 Union L. Co., Ltd.
2,094 3,362 Prop. Chmbln.'s Wf.
1 709 4,900 T. M. Duche & Sons
e, 221 221 J. Barber & Co.
108 108 L. Norman & Co, Ltd.
rial Earth—
any, £35 W. Byford
Acetate—
id, 14 pkgs. F. Boehm
de—
id, 26 t. H & E. Albert
ies, 90 Fox, Roy, & Co.
14 Culverwell, Brooks, & Co.
id, 1,330 Anglo-Contl. G. Wks.
l Alcohol—
any, 10 cks. Stein Brs.
ies, £420 W. M. Smith & Sons
haline—
m, 4 pkgs. Stobbs, Wilson, & Co.
4 T. H. Lee
—
id, 2 cks. Tozer, Hewitt, & Co.
8 pkgs. Phillipps & Graves
, 402 cks. W. Harrison & Co.
n Wax—
tes, 100 brls. H. Hill & Sons
594 Williams, Torrey, & Co.
5 958 Anglo-American Oil Co.
405 G. H. Frank
75 Union L. Co., Ltd.
ate Rock—
m, 75 t. Anglo-Contl. G. Wks.
205 J. Gibbs & Co.
55 H. & E. Albert
tes, 2,500 Wyllie & Gordon
ago—
tes, 80 cs. S. Guiterman
—
30 c. Petri Brs.
ium Carbonate—
ny, 125 c. A. J. Luke & Co.
10 cks F. Boehm
200 Charles & Fox
ium Oxalate—
id, 27 pkgs. Beresford & Co.
ium Permanganate—
id, 30 pkgs. E. Merck
ium Sulphate—
45 pkgs. Mead, Son, & Co.
e Stone—
12 t. Union L. Co., Ltd.
3 Tudors, Nash, & Co.
3 F. Claydon & Co.
2½ C. S. Lovell
2 Magee, Taylor, & Co.
27 c. O'Hara & Hoar
33 G. W. Largen
—
5 t. A. Laming & Co.

Quicksilver—
Spain, 4,000 flks. N. M. Rothschild & Sons
Rosin—
U. States, 500 brls. Prod. Brokers Co.
France, 6 pkgs. Herrman, Kellar, & Co
Sal Acetos—
Germany, 10 pkgs. Beresford & Co.
Saltpetre—
E Indies, 330 bgs. L. & I D. Jt. Co.
Germany, 500 Anglo Contl. G. Wks.
,, 4 cks. Petri Brs.
,, 46 J. Hall & Son
,, 40 P. Hecker & Co.
Sodium Hyposulphite—
Holland, 20 pkgs. Beresford & Co.
Starch—
Belgium, 200 pkgs. F. Claydon & Co.
,, 80 T. H. Lee
,, 185 F. Rosenthal & Co.
,, 100 Leach & Co.
,, 160 G. S. N. Co.
Germany, 407 Seaward Brs.
Holland, 40 G. Rahn & Co.
,, 315 Little & Johnston
,, 125 Taylor Brs.
,, 188 Phillipps & Graves
Germany, 170 ,,
,, 640 Horne & Co.
U. States, 125 C. Tennant, Sons, & Co.
Belgium, 80 F. Claydon & Co.
,, 30 Barrett, Tagant, & Co.
Holland, 620 A. Starck
Stearine—
France, 100 bgs. Walbaum & Tosetti
,, 218 H. Hill & Sons
Canada, 68 Furness, Withy, & Co.
Sulphur—
Italy, 5 t. Anderson & Co.
,, 20 J. Kitchin, Ltd.
,, 20 G. Boor & Co.
,, 14 F. C. Devon & Co.
,, 15 A. Hughes
Belgium, 100 pkgs. Hammond & Co.
Italy, 100 t. W. C. Bacon & Co.
,, 50 Soundy & Sons
,, 150 B. Jacobs & Son
,, 21 P. Ironside
Talc—
Austria, £45 Stobbs, Wilson, & Co.
France, 75 ,,
Tar—
Guernsey, 100 brls. W. Beard & Son
Tartaric Acid—
Holland, 5 pkgs. F. C. Devon & Co.
,, 22 Kirkpatrick & Co.
,, 5 B. & F. Wf. Co., Ltd.
Ultramarine—
Belgium, 3 brls. Leach & Co.
,, 7 W. Harrison & Co.
Holland, 8 cks. Magee, Taylor, & Co.
,, 20 Hernu, Peron, & Co.
,, 1 cs. Phillipps & Graves
Germany, 15 pkgs. Steinhoff, Sons, & Co.
Varnish—
France, 4 pkgs. Flageollet & Co.
Holland, 7 J. Barber & Co.
Verdigris—
France, 3 pkgs. B. & F Wf. Co.
,, 1 H. Lorenz
White Lead—
Holland, 51 brls. W. Balchin
,, 19 cks. Blundell, Spence, & Co.
,, 15 Spies Brs. & Co.
Germany, 40 Randall Bros.
France, 43 W. Harrison & Co.
Belgium, 20 Colthurst & Harding
Germany, 42 M. Ashby, Ltd.
,, 60 T. & W. Farmiloe
Wood Pulp—
Canada, 18,601 pkgs. E. J. & W. Goldsmith
Germany, 1,016 ,,
,, 500 Henderson, Craig, & Co.
Sweden, 465 ,,
Norway, 170 ,,
,, 246 W. G. Taylor & Co.
,, 1,135 Moreton Cox Brs.
U. States, 162 C. S. Lovell
Norway, 50 Johnson & Sons
,, 8 C. Christophersen & Co.
,, 3,500 Tough & Henderson
Holland, 108 C. S. Lovell
,, 2,105 E. J. & W. Goldsmith

Zinc Oxide—
Holland, 10 brls. Fellows, Morton, & Co., Ltd.
U. States, 200 M. Ashby, Ltd.
Holland, 25 ,,
,, 20 pkgs Prop. Dowgate Dk.
Zinc Sulphate—
Germany, 20 pkgs. Grosscurth & Luboldt

LIVERPOOL.

Week ending May 31st.

Acetate of Lime—
New York, 2,652 bgs. Manchester Ship Canal Co.
,, 5 505
Acid—
Hamburg, 8 cs.
Albumen—
Marseilles, 43 cs.
Aluminium—
New York, 6 brls.
Asbestos—
Montreal, 120 bgs W. H. Platt & Co.
Barytes—
Hamburg, 4 cks
Antwerp, 10 50 bgs.
Bone Meal—
Bombay, 1,069 bgs.
Boracic Acid—
Leghorn, 2 cks.
Caoutchouc—
Havre, 54 cks. Cunard S. S. Co, Ltd.
Castor Oil—
Leghorn, 10 cs.
Calcutta, 1,626 Ralli Brs
Marseilles, 50 Langstaff & Co.
,, 12 cks. T. J. Mack & Son
,, 41 Henderson Bros.
,, 376
Colours—
Ghent, 1 brl. J. T. Fletcher & Co.
Hamburg, 120 cks.
Antwerp, 2 J. T. Fletcher & Co.
Rotterdam, 4
Cream of Tartar—
Marseilles, 10 brls.
Barcelona, 3 hds.
Tarragona, 5 bts. Sachse & Klemm
Dyestuffs—
Argols
Bordeaux, 51 cks.
Cochineal
Gr. Canary, 10 bgs. Kolp & Co.
Divi Divi
Hamburg, 4 bgs.
Extracts
New York, 25 brls. 50 bxs.
Fustic Extract
Philadelphia, 100 bxs.
Logwood
Belize, 400 t. Merchant Shippers Co.
Myrabolams
Bombay, 1,863 bgs D Sassoon & Co.
,, 1,333
Saffron
Valencia, 3 cs.
Sumac
Palermo, 300 bgs. H. Rooke, Son & Co.
,, 900
Flux Skimmings—
Rotterdam, 11 cks.
Glucose—
Hamburg, 205 cks. 100 kgs
New York, 545 brls. T. M. Duche & Sons
,, 167
Baltimore, 50
Limestone—
Antwerp, 1 crt.
Manganese—
Genoa, 12 bgs. R. D. Welch & Co.
Ochre—
Marseilles, 34 cks.
Rouen, 32 R. J. Francis & Co.
Paint—
Boston, 12 cs.

Paraffin Scale—
New York, 161 brls. Thompson Bedford
Phosphate—
Ghent, 250 bgs.
Antwerp, 360 t. T. Vickers & Sons
Potash—
Rouen, 10 dms. R. J. Francis & Co.
Dunkirk, 20
Pumice Stone—
Messina, 28 cs.
Pyrites—
Huelva, 6,197 t. Matheson & Co.
Lisbon, 9 Richardson & Co.
Rosin—
Baltimore, 1,000 brls.
Salt—
Hamburg, 10 cks.
Saltpetre—
Calcutta, 309 bgs.
Hamburg, 50 brls. 70 kgs.
Soap—
Leghorn, 550 bxs. Weaver & Sterry
Naples, 172 cs P. Behrends
Marseilles, 2 Thompson Tedcastle
,, 14 85 bxs.
Gibraltar, 120
Newport News, 7 brls.
N. Orleans, 2,318
Philadelphia, 20 Lorimer & Co.
Sodium Bisulphate—
Hamburg, 1 cs.
Starch—
New York, 100 bgs. T. M. Duche & Sons
Newport News, 550
Antwerp, 36 cs. J. T Fletcher & Co.
Amsterdam, 57 bxs
Rotterdam, 80 cs. Brown, Geveke & Co.
,, 170
Stearine—
New York, 10 hds.
Antwerp, 13 bgs.
Sulphur—
Catania, 66 brls. 250 t.
Tallow—
Zarate, 176 pps. J. Nelson & Sons, Ltd.
Havre, 72 bgs. Cunard S. S. Co., Ltd.
Philadelphia, 205 tcs 200 brls.
Tar—
Marseilles, 97 brls.
Tartar—
Bordeaux 18 cks.
Tartaric Acid—
Rotterdam, 4 cks.
Marseilles, 8
Ultramarine—
Hamburg, 8 cks. 15 cs.
Rotterdam, 3
Varnish—
New York, 30 brls Pinchin, Johnson & Co.
,, 1 100 cs.
Antwerp, 1 ck.
Verdigris—
Marseilles, 4 kgs. Thompson Tedcastle
Waste Salt—
Dunkirk, 100 bgs.
White Lead—
Rotterdam, 88 cks.
Wood Pulp—
Oporto, 486 bls. Ciama Wood Pulp Co.
Zinc Ashes—
Marseilles, 12 brls.
Zinc Oxide—
New York, 150 brls.
Antwerp, 20
Rotterdam, 75 cks.
Zinc Skimmings—
New York, 21 brls. 20 cks.

MANCHESTER.

Week ending June 2nd.

Albumen—
Treport, 14 cks
Hamburg, 4

Alum—
Rotterdam, 18 cks.

Alumina Sulphate—
Rotterdam, 31 cks. Simpson, Howden, & Co.

Aniline Salt—
Rotterdam, 4 cks Simpson, Howden, & Co.

Barytes—
Antwerp, 11 cks.

Borax—
Hamburg, 10 cks.

Boric Acid—
Hamburg, 6 cks.

Carbonic Acid—
Rotterdam, 20 tubes.

Castor Oil—
Rotterdam, 29 brls. Simpson, Howden, & Co.

Chemicals (*otherwise undescribed*)
Rotterdam, 5 cks.
Hamburg, 22 cs.

Cobalt Oxide—
Rotterdam, 1 cs.

Colours—
Treport, 4 cks. 2 cs.
Rotterdam, 24 " 18 brls. Simpson, Howden, & Co.
" 17 cks 21 cs. 1 brl. 1 bx.
Antwerp, 9 brls.
Hamburg, 20 cks.

Cream of Tartar—
Rotterdam, 20 kgs.

Dyestuffs—
Alizarine
Rotterdam, 1 bx. 17 brls.
Extracts
Treport, 14 cks.
Madder
Rotterdam, 1 ck.

Farina—
Rotterdam, 335 bgs. Simpson, Howden, & Co.
Hamburg, 200

Glucose—
Rotterdam, 4 cks.
Hamburg, 10

Limestone—
Antwerp, 2 pkgs.

Litharge—
Rotterdam, 19 cks. Simpson, Howden, & Co

Ochre—
Treport, 32 cks.

Oxalic Acid—
Rotterdam, 16 cks.

Pitch—
Hamburg, 33 brls.

Potash—
Hamburg, 20 cks.

Potassium Chlorate—
Hamburg, 51 bgs.

Pumice Stone—
Rotterdam, 10 cks.

Salt—
Hamburg, qty.

Starch—
Antwerp, 861 cs. 10 bgs.
Hamburg, 436

Tartaric Acid—
Rotterdam, 2 cks. 20 kgs. Simpson, Howden, & Co.
" 18

Tin Oxalate—
Rotterdam, 6 cks.

Ultramarine—
Hamburg, 6 cks.

Wood Pulp—
Christiania, 2,560 bls. Chadwick & Taylor
drikstad, 2,800 bgs. W. Hamer

od Spirit—
mburg, 8 dms.

e Oxide—
otterdam, 75 brls. Simpson, Howden, & Co.

HULL.

Week ending June 2nd.

Acid—
Leghorn, 2 brls.
Hamburg, 1 ck. Wilson, Sons, & Co., Ld.

Antimony—
Hamburg, 10 cs. Wilson, Sons, & Co., Ltd.

Asbestos—
Genoa, 17 pkgs.

Barytes—
Antwerp, 70 bgs. 123 cks. Bailey & Leetham
Bremen, 103

Castor Oil—
Antwerp, 58 cks. G. & J. Rawstorn
Leghorn, 10 cs. Wilson, Sons, & Co., Ltd.
" 5
Genoa, 40 "

Chemicals (*otherwise undescribed*)
Rotterdam, 2 cks. W. & C. L. Ringrose
Hamburg, 1 Lofthouse & Saltmer
Dunkirk, 39 dms. Wilson, Sons, & Co., Ld.
Hamburg, 30 kgs. "

Colours—
Rotterdam, 1 ck. 26 pks. W. & C. L. Ringrose
" 30 Blundell, Spence, & Co.
" 40 4 cs. Hutchinson & Son
Ghent, 9
Stettin, 14 Wilson, Sons, & Co., Ltd.
Bremen, 7 7 pkgs. Veltmann & Co.
" 13
Antwerp, 46 Wilson, Sons, & Co., Ld.
Rouen, 5

Cryolite—
Copenhagen, 3 cks. Wilson Sons, & Co., Ltd.

Dyestuffs—
Alizarine
Rotterdam, 29 cks. W. & C. L. Ringrose
Cutch
Hamburg, 10 cs Wilson, Sons, & Co., Ld.

Farina—
Harlingen, 160 bgs.
Ghent, 312 cs. Wilson, Sons, & Co., Ld.
Amsterdam, 100 bgs. W. & C. L. Ringrose

Glucose—
Stettin, 10 cks. 150 bgs.

Kaolin—
Rotterdam, 248 bgs. Hutchinson & Son

Ochre—
Leghorn, 115 pkgs.
Messina, 43 cks. Wilson, Sons, & Co., Ld.
" 58
Rouen, 73

Paraffin Wax—
Hamburg, 15 bgs. 41 brls. Wilson, Sons, & Co., Ld.

Phosphate—
Ghent, 160 t.

Pumice Stone—
Leghorn, 2 cks. 7 cs. Wilson, Sons, & Co., Ld.

Saltpetre—
Hamburg, 20 cks.
Rotterdam, 135 bgs. Wilson, Sons, & Co., Ltd.
Hamburg, 150 kgs. "

Soap—
Messina, 2 cs. Wilson, Sons, & Co., Ld.

Starch—
Bremen, 3,360 cs. Veltmann & Co.

Stearine—
Antwerp, 7 bgs. Wilson, Sons, & Co., Ld.

Tartar—
Messina, 1 ck. Wilson, Sons, & Co., Ld.

Tartaric Acid—
Rotterdam, 2 cks. W. & C. L. Ringrose

Tin Oxide—
Rotterdam, 2 cks. Hutchinson & Son

Ultramarine—
Rotterdam, 4 cks. Storry, Smithson, & Co.
" 8 Hutchinson & Son

White Lead—
Antwerp, 36 cks. Bailey & Leetham
Rotterdam, 25 Tudor & Sons
" 20 Hutchinson & Son

Wood Pulp—
Bergen, 220 bls. Wilson, Sons, & Co., Ld.
Norrkoping, 60 Bailey & Leetham
" 160 W. H. Wheelwright
Helsingfors, 19 J. Good & Sons
" 101 Furley & Co.

Zinc Oxide—
Rotterdam, 10 cks. Johnson Brs.
Antwerp, 103 cs. Bailey & Leetham
Rotterdam, 25 cks. Hutchinson & Son

GLASGOW.

Week ending June 7th.

Acetic Acid—
Gothenburg, 7 cbys.

Alumina Sulphate—
Rotterdam, 6 cks. J. Rankine & Son

Aniline Colours—
Hamburg, 2 cs

Aniline Dyes—
Antwerp, 1 ck.

Arachide Oil—
Rotterdam, 2 cks. J. Rankine & Son

Barium Sulphate—
Antwerp, 100 bgs.

Castor Oil—
Marseilles, 275 cks. 9 cs.

Colours—
Rotterdam, 5 cks. 2 cs. J. Rankine & Son
" 30 pkgs.
Hamburg, 4 cks. 5 cs.
Antwerp, 4 2

Dyestuffs—
Alizarine
Rotterdam, 30 cks. J. Rankine & Son
" 26 pkgs.
Cutch
Calcutta, 1,499 bxs.
Extracts
New York, 80 bxs.
Antwerp, 2 cks.
Madder
Rotterdam, 2 cks.
Myrabolams
Bombay, 670 bgs.

Farina—
Delfszyl, 100 bgs.
Hamburg, 100

Fluor Chrome—
Rotterdam, 2 cs.

Glucose—
New York, 470 brls.

Ochre—
Marseilles, 21 cks.

Paint—
New York, 2 brls.

Phosphates—
Dunkirk, 100 t.

Potash—
Hamburg, 100 cks.

Rosin—
New York, 374 brls.

Salt—
New York, 250 bgs.

Saltpetre—
Calcutta, 1 bx.
Hamburg, 35 kgs.

Silica—
Hamburg, 205 bgs.

Soap—
New York, 50 brls.

Starch—
Antwerp, 120 cs.
New York, 1 200 bxs. 63 sks.

Talc—
Calcutta, 100 bxs.

Tallow—
New York, 120 hhds.

Tartar—
Oporto, 6 cks.
Bordeaux, 5

Tin Crystals—
Amsterdam, 2 cks.

Varnish—
New York, 10 brls. 23 cs.

Waste Salt—
Hamburg, 1,499 bgs.

White Lead—
Antwerp, 5 cks.
Rotterdam, 36

Wood Pulp—
Christiania, 2,284 bls.

Wood Spirit—
Hamburg, 7 dms.

Zinc White—
Rotterdam, 150 cks.

TYNE.

Week ending June 2nd.

Acetic Acid—
Rotterdam, 84 cbys. Tyne S. S. Co.

Alum Earth—
Hamburg, 18 cks. Tyne S. S. Co.

Colours—
Rotterdam, 8 cks. Tyne S. S. Co.
Hamburg, 8 "

Limestone—
Antwerp, 4 cs. Tyne S. S. Co.

Pyrites—
Huelva, 1,524 t.

Saltpetre—
Harburg, 232 t.

Tartaric Acid—
Rotterdam, 4 cks. Tyne S. S. Co.

Ultramarine—
Hamburg, 1 ck. 10 cs. Tyne S. S. Co.

GOOLE.

Week ending May 30th.

Alumina Sulphate—
Antwerp, 16 cks.

Caoutchouc—
Boulogne, 6 cks.

Chemicals (*otherwise undes.*)
Rotterdam, 3 cks.

Dyestuffs—
Extracts
Ghent, 100 cks.

Dyestuffs (*otherwise undescribed*)
Ghent, 5 cks.
Boulogne, 9 3 cs. 3 pkgs.

Ochre—
Calais, 38 cks.

Potash—
Antwerp, 4 cks.
Calais, 21 dms.
Dunkirk, 2

Pyrites—
Huelva, 918 t.

Saltpetre—
Hamburg, 9 cks. 20 bgs.

Waste Salt—
Hamburg, 363 cks.

Zinc Oxide—
Antwerp, 2 brls.

GRIMSBY.

Week ending June 2nd.

Caoutchouc—
Hamburg, 3 cs.
Antwerp, 1
Rotterdam, 1

Chemicals (*otherwise undescribed*)
Hamburg, 4 cks.
Antwerp, 2 bls.

Dyestuffs (*otherwise undescribed*)
Dieppe, 4 cks.

Pitch—
Dieppe, 19 cks.

Saltpetre—
Rotterdam, 170 pkgs.

Waste Salt—
Hamburg, 500 bgs.

EXPORTS OF CHEMICAL PRODUCTS
OF
THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.
Week ending June 6th.

Acetic Acid—
Brisbane, 12 cs. £24

Alkali—
Hobart, 13 t. 1 c. £54

Alum—
Rabat, 40 brls. £28

Aluminous Cake—
Copenhagen, 10 t. £30

Ammonia (Liquid)—
E. London, 4 cs. £6
Calcutta, 4 24

Ammonium Carbonate—
Brisbane, 5 c. £12
Paris, 4 t. 17 166
Lisbon, 1 ck. 9
Launceston, 4 10

Ammonium Chloride—
Amsterdam, 7 c. £13

Ammonium Sulphate—
Bremen, 10 t. £14
St. Vincent, 9 17 c. 139
Amsterdam, 150 2,100
Rotterdam, 6 10 90

Arsenic—
Sydney, 1 t. £18
Brisbane, 10 dms. 8
Canterbury, 1 16
Yokohama, 2 30

Bisulphites—
Sydney, 1 t. £31
Melbourne, 1 31

Boracic Acid—
Melbourne, 7 cks. £75
Calcutta, 4 c. 8

Borax—
Hamburg, 5 c. £13
Algoa Bay, 20 cs. 67
Launceston, 8 11
Brisbane, 20 31

Boric Acid—
Brisbane, 7 c. £13

Carbolic Acid—
E. London, 20 dms. 10 cs. £13
Adelaide, 1 t. 14 c. 25
Calcutta, 25 dms. 24

Carbonic Acid—
Christchurch, 1 t. 3 c. £34

Caustic Potash—
Canterbury, 10 c. £16

Caustic Soda—
Sydney, 15 t. 16 c. £200
Brisbane, 15 6 141
E. London, 19 22
Cape Town, 1 6 33
Algoa Bay, 6 8
Napier, 4 10
Wanganui, 5 2 46
Hobart, 10 3 90
Shanghai, 1 3 9
Melbourne, 15 130
Wellington, 5 8 50
Newcastle, 15 2 166
Hong Kong, 2 19 34
Fremantle, 3 8

Chemicals *(otherwise undescribed)*
Adelaide, 10 kgs. 1 cs. £74
Wellington, 5 c. 22
Colombo, 3 15
Melbourne, 5 24
Shanghai, 1 1 brl. 10
Newcastle, 2 t. 8 c. 10 kgs. 151
Launceston, 40 87
Fremantle, 11 12

Citric Acid—
Otago, 5 c. £33
Lyttelton, 2 17
Oporto, 3 cks. 22
Calcutta, 2 cs. 3 35
Cologne, 5 34
Adelaide, 2 14
St. Petersburg, 1 t. 133

Coal Products—
Aniline Dyes
Calcutta, 1 cs. £56
Aniline Oil
New York, 17 dms. £460
Aniline Salts
New York, 38 cks. £230
Anthracene
Dusseldorf, 375 cks. £1,500
Benzol
Rotterdam, 40 pns. £290
Hamburg, 40 dms. 254
Treport, 12 cks. 122
Creosote
Bilbao, 500 cks. £267
Naphthaline
Hamburg, 84 bgs. 9 cks. £107
Treport, 50 pkgs. 38
Antwerp, 1 9
Paraffin Wax
Sydney, 100 cs. £220
Launceston, 312 bgs. 464
Pitch
New York, 500 bgs. 500 cks. £247
Havre, 1,074 t. 1,439
Antwerp, 340 360
Dunkirk, 250 427
Sables d'Olonne, 700 965
Sydney, 5 brls. 11
Alexandria, 200 68
Philadelphia, 3,689 bgs. 918 pkgs. 848
Treport, 36 cks. 70
Tar
Natal, 370 dms. £42
Melbourne, 10 brls. 12

Copper Sulphate—
St. Michaels, 1 t. 2 c. £16
Leghorn, 11 160
Genoa, 6 18 100
Oporto, 1 3 20
Bordeaux, 35 560

Cream of Tartar—
Sydney, 1 t. 1 c. £63
Melbourne, 1 67
Adelaide, 3 5 216
Brisbane, 1 16 123
Rockhampton, 5 17
Wellington, 3 10
Wanganui, 1 8
Canterbury, 3 10
Dunedin, 5 16
Fremantle, 10 37

Disinfectants—
Sydney, 6 cs. £14
Otago, 3 14
Canterbury, 5 13
Brisbane, 12 12
Brussels, 18 pkgs. 19
Suez, 38 20

Iron Sulphate—
St. Michaels, 5 t. 11 c. £12

Manure—
Gr. Canary, 121 t. 6 c. £1,370
Las Palmas, 30 128
Madeira, 21 202
Bordeaux, 20 164
St. Kitts, 21 14 248
Jamaica, 5 2 53
Guadeloupe, 295 13 2,000
Martinique, 6 35
Trinidad, 50 535
Treport, 49 17 300
Mauritius, 12 360

Metallic Sodium—
Hamburg, 1 t. £310

Nitric Acid—
E. London, 6 cs. £16

Oxalic Acid—
Calcutta, 5 c. £10

Phosphate—
Barbadoes, 70 t. £240

Phosphorus—
Sydney, 10 cs. £100
Oporto, 1 11
E. London, 3 30
Melbourne, 10 109

Potash Crystals—
Melbourne, 5 cks. £60

Potassium Bicarbonate—
Yokohama, 2 t. £56

Potassium Bichromate—
Oporto, 1 ck. £17
Sydney, 1 t. 46

Potassium Chlorate—
Odessa, 1 t. £67

Potassium Cyanide—
Normanton, 5 t. 4 c. £488

Potassium Prussiate—
Sydney, 5 c. £25

Saltpetre—
Sydney, 1 t. £22
Brisbane, 5 c. 6
Wellington, 10 11
Rio de Janeiro, 2 9 57
Algoa Bay, 13 16

Sheep Dip—
Natal, 850 dms. £205
E. London, 250 49
Calcutta, 45 29

Soda—
Newcastle, 10 t. £24

Soda Ash—
Wanganui, 1 t. 3 c. £6

Soda Crystals—
Fremantle, 5 t. 5 c. £16
Singapore, 10 18 25
Newcastle, 73 166
Hong Kong, 7 19 13

Sodium Biborate—
Brisbane, 15 c. £19

Sodium Silicate—
Melbourne, 11 t. £47
Wanganui, 4 3 c. 23

Sodium Sulphate—
Dunedin, 5 t. £48

Spent Oxide—
Dordt, 110 t. £55

Strontium Nitrate—
New York, 2 t. £48

Sulphuric Acid—
Colombo, 10 cs. £10

Superphosphate—
Barbadoes, 100 t. £460

Tartaric Acid—
Adelaide, 5 c. £23
Brisbane, 10 54
Rockhampton, 2 10
Dunedin, 2 cs. 5 33
Calcutta, 3 25

LIVERPOOL.
Week ending June 6th.

Acetic Acid—
Lisbon, 3 t. 5 c. £33

Acids—
Tuticorin, 1 t. £16

Albumen—
Vera Cruz, 3 cks.

Alum—
Montreal, 13 t. 11 c. £71
Malta, 3 8 16
Alexandria, 2 14 13
Trebizonde, 4 28
Smyrna, 2 10 18
Valparaiso, 3 10 25
Melbourne, 1 6
B. Ayres, 1 17 9
Syra, 3 2 3 q. 7
Lisbon, 14 9 3 76

Alum Cake—
Calcutta, 53 t. 2 c. 2 q. £137

Alumina Sulphate—
Montreal, 16 t. 4 c. 1 q. £81

Ammonia (Liquid)—
Barranquilla, 2 cs. £8

Ammonium Carbonate—
Naples, 7 c. £9
Rotterdam, 1 t. 2 q. 36
Toronto, 15 2 26
Marseilles, 10 1 18

Ammonium Chloride—
Galatz, 6 c. £10
Smyrna, 10 18
Piræus, 7 13
Rotterdam, 5 t. 1 q. 85
Alexandria, 1 37
Montreal, 11 1 16
Antwerp, 1 4 2 31

Ammonium Sulphate—
Valencia, 273 t. 2 c. 1 q. £3,659
Sourabaya, 395 9 2 5,454
Demerara, 96 10 3 1,309
Las Palmas, 25 360
Barcelona, 10 3 134
Nantes, 49 1 3 631

Bleaching Powder—
Baltimore, 100 cks 200 cs.
Montreal, 24
Pasages, 2 hhds.
Bombay, 5
Boston, 44
B. Ayres, 9
Cape Town, 40 bxs.
Naples, 72
New York, 35
Puerto Cabello, 20
Rio de Janeiro, 4

Boracic Acid—
Genoa, 4 c. £8
Hamburg, 10 t. 19 c. 3 q. 413

Borate of Lime—
Antwerp, 30 t 3 c. £280

Borax—
Vera Cruz, 1 t. 19 c. £44
Rotterdam, 11 14
Constantinople, 1 2 q. 7
Hamburg, 4 18 100
Alexandria, 1 4 25

Borax Crystals—
Vera Cruz, 19 c. £23

Calcium Chloride—
Sydney, 4 t. 14 c. £11

Camphor—
Accra, 1 cs.

Carbolic Acid—
Rotterdam, 10 t. 10 c. £575
Hamburg, 9 19 513
Philadelphia, 1 6 55

Caustic Potash—
New York, 5 t. 2 c. £132

Caustic Soda—
Bahia, 250 dms.
Baltimore, 32 cs. 25 brls. 25 crts.
E. London, 15 10
Fiume, 102
Genoa, 145
Messina, 81
Mexico, 150
Montreal, 50 pkgs.
New York, 315 10 bxs.
Oporto, 30
Philadelphia, 50
Rotterdam, 47
Singapore, 25
Sydney, 30

Chemicals *(otherwise undescribed)*
Pt. Said, 10 c. £18
Genoa, 1 t. 3 2 q. 42
New York, 5 2 2 134
Alexandria, 1 2 2 38
Bombay, 1 10
Nantes, 1

China Clay—
Boston, 896 t.
Barcelona, 2
Bombay, 5
Calcutta, 60
Lisbon, 2 15 c.

Coal Products—
Alizarine Oil
Lisbon, 1 ck.
Aniline Colours
Montreal, 3 cks. 2 kgs. 1 cs.
Shanghai, 25
Aniline Oil
Rouen, 5 dms.
Creosote Oil
Bordeaux, 52,553 glls.
Pitch
Genoa, 1,169 t. 15 c. 25 lds.
Antwerp, 53
Lagos, 10 brls.
Tar
Lagos, 10 brls.
M. Video, 10
St. John's, N.F., 6
Kurrachee, 100
Philadelphia, 250

Coal Products *(otherwise undes.)*—
New York, 13 cks. 69 cs.

Cobalt Oxide—
Lisbon, 1 c £38

Copperas—

Las Palmas,	2 t.	2 c.	1 q.	£4
Iquique,	10	10		18

Copper Sulphate—

Oporto,	2 t.	7 c.		£36
Genoa,	173	8	3 q	2,603
Venice,	136	14	2	1,990
Constantinople,	3			47
Bordeaux,	4	18	3	75
Lisbon,	25			377
Naples,	56	14	3	851
Montreal,	7	18	2	119
Trieste,	5			74
Sourabaya,	200	17	1	2,852
Marseilles,	180	4	1	2,873
Ghent,	2	19	3	46
Antwerp,	6	2		95
Leghorn,	22	8		341
Nantes,	17	17	1	297
La Plata,		10		10
Santos,		10		8
Pernambuco,		10		8
Accra,		5		4
Odessa,	11	19		181
Vigo,	4	18	1	73
Vera Cruz,	2	10		37
B. Ayres,	2	10	1	38
Brindisi,	4	13	1	66

Cream of Tartar—
Vera Cruz, 2 c. £7

Disinfectants—
Bombay, 4 t. £49

Dried Blood—
Las Palmas, 4 t. £32

Guano—
Cullera, 150 t. £368

Litharge—
Oporto, 6 cks.

Magnesium Chloride—
Bombay, 26 t. 1 c. £63

Magnesium Sulphate—
Cadiz, 9 cks.
Vera Cruz, 50 kgs.

Manganese—
Antwerp, 14 c.

Manganese Ore—
Algoa Bay, 5 t. 7 c.

Manure—

Valencia,	80 t.	16 c.	3 q.	£285
St. Nazaire,	300	1	2	1,175

Mica—
New York, 11 cs.

Minium—
Las Palmas, 10 kgs.

Nitrate of Lead—
Genoa, 1 t. £20

Ochre—
Demerara, 10 kgs

Oxalic Acid—
Vera Cruz, 10 c. £17
Barcelona, 3 t. 11 163

Paint—
Calcutta, 213 kgs. 15 cks.
C. C. Castle, 85
Cape Lopez, 4
Ferrol, 1
Gibraltar, 2
Larnaca, 1
Las Palmas, 50
Matanzas, 2
M. Video, 10
Opobo, 2 20 dms
Piræus, 12
Pt. Natal, 7 cs.
Rosario, 4
St. Jago de Cuba, 1
St. John's, N'fd., 3 24 pkgs.
Savannah la Mar, 40
Sourabaya, 10
Callao, 30 cs.
Cape Town, 55 1
Guayaquil, 45 dms.
Kingston, Jam., 100
Lagos, 164
Malta, 2 3
New York, 100 2
St. Thomas, 54 2
Shanghai, 17
Sierra Leone, 1
Taltal, 1 brl.
Trieste, 8

Painters' Colours—
Accra, 40 kgs
Alexandria, 6 1 ck. 24 dms.
Antofagasta, 5
Baltimore, 23
Beyrout, 20 2
Boca, 7 cs.
Bombay, 308 33 20
Bonny, 1 brl. 4
B. Ayres, 40 100 50
Demerara, 1 80 4 12
Hong Kong, 210
Iquique, 60
Kentville, N.S., 1
N. York, 210 brls. 2 15
Ottawa, 62
Para, 6 56 15
Pisagua, 35
Santos, 30 120
Valparaiso, 90
Antwerp, 20 20 4
Arecibo, 2
Barranquilla, 4 bgs.
Guantanamo, 4 brls.
Manaos, 47 1 1
Manila, 30
M. Video, 2
Nassau, 50 6
Oporto, 1
Philadelphia, 20

Phosphorous—
Havana, 6 cs. £86
B. Ayres, 8 88
M. Video, 4 44
Hiogo, 30 240
Shanghai, 30 300

Picric Acid—
New York, 2 t. £185

Plumbago—
Seville, 1 ck

Potassium Bichromate—
B. Ayres, 7 c. 1 q. £16
Oporto, 15 2 30
Vera Cruz, 1 t. 2 50

Potassium Carbonate—
New York, 19 t. 1 c. £362

Potassium Chlorate—
Trieste, 9 c. £25
Naples, 1 t. 56
Rotterdam, 1 8 89
St. Petersburg, 7 10 429
Calcutta, 14 42
Hiogo, 2 10 146

Potassium Prussiate—
Vera Cruz, 1 q. £2

Potassium Silicate—
Amsterdam, 1 t. 3 c. 3 q. £6

Rosin—
Alexandria, 10 cks.

Salt—
Abbonema, 20 t.
Antwerp, 395
Baltimore, 200
Banana, 600
Boston, 300
B. Ayres, 104 10 c.
Buguma, 20
Calcutta, 4,936
Callao, 1 4
Copenhagen, 315
Esquimalt, 229 18
Ghent, 314 1
Iceland, 317
Melbourne, 100
Miramichi, 418
Montreal, 399 4
Rio de Janeiro, 2 2
Rotterdam, 151
Sydney, 30
Accra, 5
Adelaide, 5
Bahia, 1 1
Coronel, 10
Halifax, 600
Lagos, 200
Old Calabar, 50
St. John's, Nfld., 15

Salt Cake—
Baltimore, 70 t. 16 c. £96
New York, 1 14 2 q. 34

Saltpetre—
Rio de Janeiro, 2 t. 4 c. 1 q. £6
Para. 1 23
Las Palmas, 1 11 1 29

Sheep Dip—
M. Video, 4 t. 3 c. 2 q. £125
Arica, 2 13 1 72
Algoa Bay, 8 7 1 178

Slag—
Barbadoes, 10 t.
Rostock, 477

Soap—
Accra, 330 bxs.
Algoa Bay, 2,202 50 cs.
Annatto Bay, 30
Banda, 1,000
Barbadoes, 100
Bathurst, 28
Calcutta, 500 20
Cape Town, 1,102 16
Colon, 100
Durban, 100
E. London, 970 29
Falmouth, 30
Genoa, 200
Gibraltar, 700 20
Hong Kong, 3
Iquitos, 200
Kingston, J., 1,300
Kurrachee, 500
Lagos, 48
Manaos, 1,060
Menado, 500
Monrovia, 32
New York, 400
Opobo, 250
Para, 400
Pt. Elizabeth, 100 50
Pt. Natal, 355
Pt. Said, 25
Rebate, 200
St. John's, Nfld., 200 1
St. Lucia, 20
Trinidad, 927 3
Aaran, 120
Amiens, 45
Amsterdam, 250
Bale, 230
Berne, 120
Blonville, 50
Bombay, 5 8 cks.
Brussels, 600
Constantinople, 2
Hamburg, 259
Larnaca, 1
Murre, 10
Rotterdam, 50
Shanghai, 4
Teneriffe, 370

Soda Alkali—
Callao, 35 brls.
Odessa, 35
Tripoli, 35

Soda Ash—
Antwerp, 15 cks.
Boston, 20 600 bgs. 47 tcs
Brisbane, 235
B. Ayres, 25 210 brls.
Calcutta, 7
Callao, 5 10 25
Kobe, 349
Limon, 5
M. Video, 100
New York, 66 2,510 93 tcs
Pernambuco, 4
Preston, 12
Rio de Janeiro, 160
Samarang, 15
Toronto, 5
Yokohama, 85
Amsterdam, 25
Baltimore, 34 440
Candia, 30
Hiogo, 50
Leghorn, 11 150
Para, 30 dms.
Philadelphia, 77
Piræus, 15
Porto Alegre, 75
Salonica, 60
Smyrna, 50
Sydney, 235

Soda Crystals—
Gibraltar, 15 brls.
B. Ayres, 40 kgs.
M. Video, 25
New York, 140 cks.

Sodium Biborate—
Barcelona, 16 brls.
Catania, 2 cs.
Dunkirk, 20
Genoa, 157
Hamburg, 2 cks.
Montreal, 12
Naples, 40
Rotterdam, 10 20
Venice, 40

Sodium Bicarbonate—
Amsterdam, 20 kgs.
Antwerp, 170 7 cks.
Bombay, 310
Bordeaux, 95
Brisbane, 495
Leghorn, 75
London, Ont., 50
Malta, 7
Mexico, 50
Montreal, 250
Odessa, 130 20 b
San Jose de Guatemala, 120 k
Batoum, 100 kgs.
Calcutta, 250
Cartagena, Sp., 20
Catania, 91
Constantinople, 20
Genoa, 70 1 ck.
Hiogo, 500
Lisbon 20
Palermo, 15
Rotterdam, 30
St. Petersburg, 770
Singapore, 17
Sydney, 380
Valencia, 150

Sodium Chlorate—
Hamburg, 5 kgs. 2 cks.

Sodium Hyposulphite—
Constantinople, 20 kgs.

Sodium Silicate—
Brisbane, 8 brls.
Pt. Louis, 10
Sydney, 8

Sulphur—
Calcutta, 12 t. 9 c.
E. London, 3 12
Boston, 200 5
Rio de Janeiro 19 12 3q

Superphosphate—
Valencia, 200 bgs.

Turpentine—
Vera Cruz, 10 dms.

Ultramarine—
Yokohama, 8 brls.

Varnish—
Calcutta, 10 dms.
Kentville, N S., 1 cs.
Montreal, 10
Valparaiso, 20
Benquella, 10
Manila, 10
M. Video, 1

Waste Salt—
B. Ayres, 1 t. 2 c.

White Lead—
Calcutta, 3 cks.
St. John's, Nfld., 4
Cape Town 4

Whiting—
M. Video, 20 t.
Shanghai, 12 cks.
Iquique, 30 brls.

Zinc Chloride—
Bordeaux, 12 t.
Bombay, 15 14 c.

MANCHESTE

Week ending June 7th.

Ammonium Sulphate—
Antwerp, 398 bgs.
Barcelona, 482
Valencia, 939

Aniline Oil—
Rotterdam, 2 dms.

Carbolic Acid—
Barcelona, 30 cs. 25 dms.
Valencia, 30 25

Chemicals *(otherwise undescr*
Rotterdam, 15 cks.

Colour—
Rio de Janeiro, 1 ck.

Extracts—
Rotterdam, 30 cks.

Paraffin Wax—
Antwerp, 7 cks.
Hamburg, 40 bgs.

Tallow—
Rotterdam, 5 cks.

Tar Oil—
Treport, 26 brls.

Tar Salts—
Rotterdam, 29 cks.

HULL.

Week ending June 2nd.

—
hagen, 2 cks.
80 10 t.
248 kgs. 5 50 cs. 104 brls.
8 100 bls.
rg, 39
4

nium Sulphate—
rp, 734 bgs.
urg, 1,285
dam, 1,146

—
ne, 23 dms.

ing Powder—
ay, 10 dms.
g, 6 cks.
111
53
2

—
rp, 20 cks.
gfors, 8
rg, 1

chouc—
a, 1 cs.

c Soda—
1 ck.
53 dms.
ay, 10
gfors, 3
35
35
60
e, 28
rg, 7
52

cals *(otherwise undescribed)*
rp, 15 cks. 9 pks.
rdam, 20
54
ay, 299
aux, 7 cs.
hagen, 1 8 80 btls.
iania, 12 brls. 8 2
715 slbs.
g, 20
heim, 10 8
nburg, 100 pkgs. 5
urg, 9 131
chee, 507
6
dam, 37 2 134
tersburg, 16
25 100
holm, 3 1
e, 14
rg, 6 20
1

Clay—
iania, 4 cks.

r Sulphate—
12 cks.

seed Oil—
rp, 185 c.
n, 104
ne, 488
erg, 199
urg, 435
dam, 673
agen, 203

te—
holm, 10 cks.

affs *(otherwise undescribed)*
rp, 67 bls.
tersburg, 40 cks.

d Oil—
20 c.
n, 45
ay, 106
ne, 116
iansand, 18
hagen, 51
iania, 502
heim, 305
nburg, 276
gfors, 242
urg, 608
chee, 60
dam, 222
ger, 51

od—
136 bls.

nese—
ersburg, 11 cks.

ha—
rp, 12 cks.
hagen, 3
rk, 52
15

Paint—
Christiania, 1 ck.
Helsingfors, 1 cs.

Painters' Colours—
Antwerp, 23 cks. 384 pkgs. 3 dms
Amsterdam, 14 4 cs.
Bari, 4
Bergen, 1 2
Bremen, 3
Bombay, 1 214 55
Copenhagen, 14
Christiania, 2 brls. 1 100 3 166
Drontheim, 2 30
Dunkirk, 1
Fiume, 3
Ghent, 2
Helsingfors, 18 1 9
Hamburg, 5 1
Konigsberg, 37
Kurrachee, 11 120
New York, 200
Palermo, 25 pks.
Riga, 1
Rouen, 34
Rotterdam, 39 1 1
St Petersburg, 110
Stettin, 28
Stockholm, 2

Phosphorus—
Bari, 18 cs.

Pitch—
Antwerp 220 t.
New York, 100 cks.

Plumbago—
Helsingfors, 1 ck.

Sheep Dip—
Bombay, 300 dms.

Slag—
Stettin, 276 t.
Venice, 500

Tallow—
Bombay, 31 cks.
Rotterdam, 57

Tar—
Amsterdam, 23 cks.
Abo, 100
Copenhagen, 9
Danzig, 10
Helsingfors, 30 45 brls.
Hamburg, 3
Rotterdam, 5
Stockholm, 8

Tar Salts—
Danzig, 24 bls.

Turpentine—
Drontheim 5 cks.

Varnish—
Antwerp, 2 cs. 2 cks.
Bombay, 1 75 dms.
Copenhagen, 6 bls.
Gothenburg, 6
Helsingfors, 4 2
Hamburg, 7

Wood Pulp—
Christiania, 2 bls.

GLASGOW.

Week ending June 7th.

Ammonium Sulphate—
Trinidad, 50 t. 16¼ c. £670
Spain, 157 19 2,116

Bleaching Powder—
Philadelphia, 5 t. 7¼ c. £90

Coal Products—
Creosote
Odessa, 95 t. 2 c. £225
Creosote Oil
Christiania, 100 brls. £45
Naphtha
Rouen, 8 t. 9 c £118
Pitch
Quebec, 28 t. 7 c. £50
Gothenburg, 136 £327. 10s.
Antwerp, 158 £164
Russia, 15 10 25
Amsterdam, 250 350
Bombay, 152
Tar
Quebec, £35
Bergen, 1 ck. 16s.
Russia, 102 t. 11½ c. £208
Quebec, 24 2 40
Bombay, 48

Dried Blood—
Rouen, 7 t 13 c. £53

Dyestuffs—
Extracts
Antwerp, 1 t. 14¾ c. £60
Quebec, 2 12½ 84
Logwood
Spain, 6 t. 10¾ c. £74

Glucose—
Cape Colony, 23 t. 6¼ c. £339

Linseed Oil—
Straits, 2 t. 4¼ c. £52
Cape Colony, 2 1¾ 49
Natal 1 9¾ 38
Halifax, 17½ 20
Quebec, 38 13¾ 725

Manganese—
Rotterdam, 6 cks. £20

Ochre—
New York, 4 t. 2¾ c. £65

Paint—
Straits, 7 t. 9½ c. £54
Cape Colony, 3 16¼ 81
Natal, 1 16¾ 44
Calcutta, 4 45

Painters' Colours—
Hong Kong, 4 t. 17½ c £67. 10s
Bombay, 4 17 £49
Calcutta, 6 115

Paraffin Wax—
Japan, 4 t. 1¾ c. £69
Rouen, 1 7¼ 42
Antwerp, 6 11¾ 250
Constantinople, 2 61
Russia, 51 1¾ 766
Spain, 3 4 77
Riga, 50 bgs. 115

Potash—
Rotterdam, 13 cks. £212
Amsterdam, 12 192

Potassium Bichromate—
Philadelphia, 10 t. 14¾ c. £436
Gothenburg, 5 10¾ 212
Constantinople, 5 9 217
Spain 5 10¼ 220
Christiania, 5 200

Soap—
Cape Colony, 4 t. 13 c. £74

Sodium Bichromate—
Antwerp 5 t. 2¾ c. £168
Spain, 4 17¼ 162

Sulphuric Acid—
Calcutta, 7 c. £40

Tallow—
Rotterdam, 12 t 2 c. £416

White Lead—
Halifax, 11 t. 3 c. £120
St. John's, N'fd , 1 22

TYNE.

Week ending June 2nd.

Alkali—
Amsterdam, 13 t. 14 c.
Venice, 112 12
St. Petersburg, 30 3
Copenhagen, 1 16

Ammonium Sulphate—
Valencia, 224 t. 8 c.
Rotterdam, 20 3

Antimony—
Barcelona, 1 t 1 c
Rotterdam, 5

Arsenic—
Leghorn, 18 c.

Barium Binoxide—
Dunkirk, 10 t. 7 c.

Barytes Carbonate—
Rouen, 15 t.

Bleaching Powder—
Amsterdam, 10 t. 7 c.
Venice, 19 11
Gothenburg, 5
St. Petersburg, 100 8
Christiania, 16 16
Bergen, 5 3
Helsingfors, 101 3
Antwerp, 18 15
Hamburg, 1 9
Rotterdam, 10 5
Drontheim, 10 17
Copenhagen, 9 10
Gefle, 25 9

Caustic Soda—
Barcelona, 9 t. 4 c.
Venice, 34 16
Gothenburg, 4 18
Valencia, 10 3
Christiania, 5 4
Bergen, 11
Abo. 10
Helsingfors, 17 16
Wyburg, 9 15
Antwerp, 24 13
Hamburg, 3 9
Genoa, 8 14
Rotterdam, 3 16
Copenhagen, 12 9
Libau, 20 4
Stockholm, 11 12
Rouen, 18 11
Archangel, 3

Colours—
Naples, 6 c.

Litharge—
Helsingfors, 2 t.
Hamburg, 3 18 c.
Rotterdam, 10
Copenhagen, 2 3
Stockholm, 8 8

Magnesia—
Hamburg, 6 c.

Magnesium Carbonate—
Rotterdam, 2 c.

Oxalic Acid—
St. Petersburg, 6 c.
Copenhagen, 1 t. 10

Paint—
Antwerp, 15 c.
Genoa, 19
Gefle, 14
Archangel, 1 t. 7

Phosphorus—
Valencia, 2 t. 1 c.

Pitch—
Drontheim, 4 c.

Rosin Oil—
Rotterdam, 1 t. 15 c.

Slag—
Rotterdam, 183 t.

Soda—
Amsterdam, 25 t.
Drontheim, 37 12 c.
Gothenburg, 5 8
Christiania, 5
Aarhuus, 9 14
Frederikshaven, 6 19
Abo. 4 4
Helsingfors, 19 8
Antwerp, 5
Rotterdam, 30
Gefle, 20 2

Soda Ash—
Venice, 16 t. 14 c.
Abo. 79 18
Helsingfors, 20 7
Frederikshavn, 50 11
Hamburg, 14 11
Copenhagen, 10 9

Soda Crystals—
Wyburg, 3 t. 4 c.

Sodium Sulphate—
Drontheim, 560 t. 12 c.
St. Petersburg, 10 7
Venice. 20 10

Sulphur—
Gothenburg, 75 t.
Christiania, 50
Wyburg, 1 1 c.

Tar—
Drontheim, 4 t. 15 c.

Varnish—
Naples. 7 c.

White Lead—
Archangel, 1 t. 10 c.
Christiania, 10
Helsingfors, 12
Wyburg, 8
Stockholm, 2 3

GOOLE.

Week ending May 30th.

Chemicals *(otherwise undescribed)*
Antwerp, 18 kgs.
Dieppe, 1 cs.
Hamburg, 8 brls.

Coal Products *(otherwise undes.)*—
Dieppe, 1 cs. 87 cks. 71 brls.

GRIMSBY.

Week ending June 2nd.

Chemicals *(otherwise undescribed)*
Boulogne, 2 cks.
Ghent, 10
Rotterdam, 98
Hamburg, 2

Coal Products *(otherwise undes.)*
Antwerp, 100 cks.
Boulogne, 72
Ghent, 1
Rotterdam, 98

Manure—
Boulogne, 370 bgs.
Rotterdam, 378

Pitch—
Antwerp, 160 t.

PRICES CURRENT.

WEDNESDAY, June 13th, 1894.

Prepared by Messrs. Higginbottom and Co., 116, Portland Street, Manchester.

The values stated are f.o.r. at maker's works, or at usual ports of shipment in U.K. The price in different localities may vary.

	£	s.	d.
Acids:—			
Acetic, 25 % and 40 % .. .. per cwt.	6/6 & 10/6		
,, Glacial .. .. ,,		50/-	
Arsenic S.G., 2000° .. .. ,,	0	14	6
Fluoric .. .. per lb.	0	0	3¼
Muriatic (Tower Salts), 30° Tw. .. .. .. per bottle	0	0	10
,, (Cylinder), 30° Tw. .. .. ,,	0	3	0
Nitric 80° Tw. .. .. per lb.	0	0	1¾
Nitrous .. .. ,,	0	0	1¾
Oxalic .. .. nett ,,	0	0	3¾
Phosphoric, 1750° .. .. ,,	0	1	0
Picric .. .. ,,	0	1	0
Sulphuric (fuming 50 %) .. .. per ton	15	10	0
,, (monohydrate) .. .. ,,	5	10	0
,, (Pyrites, 168°) .. .. ,,	3	0	0
,, ,, 150° .. .. ,,	1	5	0
,, (free from arsenic, 145°) .. .. .. ,,	1	6	0
Sulphurous (solution) S.G. 1025 .. .. .. ,,	3	0	0
Tannic (pure) .. .. per lb.	0	1	1
Tartaric .. .. ,,	0	0	11
Arsenic, white powdered .. .. nett per ton	14	5	0
Alum (loose lump) .. .. ,,	5	2	6
Alumina Sulphate (pure) .. .. ,,	5	0	0
Aluminoferric .. .. ,,	2	7	6
Aluminium .. .. per lb.	0	3	0
Ammonia, Anhydrous .. .. ,,	0	1	3
,, ·880=28° B. .. .. per lb.	0	0	3
,, =24° B. .. .. ,,	0	0	2¼
,, Carbonate .. .. nett ,,	0	0	3¾
,, Muriate .. .. per ton	24	10	0
,, ,, (sal-ammoniac) 1st & 2nd .. per cwt.	39/- & 37/-		
,, Nitrate .. .. per ton	44	0	0
,, Phosphate .. .. per lb.	0	0	10½
,, Sulphate (grey) London .. .. .. per ton	14	2	6
,, ,, (grey) Hull .. .. ,,	14	0	0
Aniline Oil (pure) .. .. per lb.	0	0	5½
Aniline Salt ,, ... ,,	0	0	5¼
Antimony .. .. per ton	33	0	0
,, (tartar emetic) .. .. per lb.	0	0	9½
,, (golden sulphide) .. .. ,,	0	0	10
Barium Chloride .. .. per ton	6	10	0
,, Carbonate (native) .. .. ,,	3	10	0
,, Sulphate (native levigated) .. .. .. ,,	45/- to 75/-		
Bleaching Powder, 35 % .. .. nett ,,	7	10	0
,, Liquor, 7 % .. .. ,,	3	10	0
Bisulphide of Carbon .. .. ,,	11	15	0
Chromium Acetate (crystal) .. .. per lb.	0	0	6
Calcium Chloride .. .. per ton	2	5	0
China Clay (at Runcorn) in bulk .. .. .. ,,	17/6 to 30/-		
Coal Tar Products and Dyes:—			
Alizarine (artificial) 20 % .. .. .. net per lb.	0	0	8
Magenta .. .. ,,	0	3	9
Anthracene, 30 % A, f.o.b. London .. per unit per cwt.	0	1	1
Benzol, 90 % nominal .. .. .. per gallon	0	1	0
,, 50/90 ,, ... ,,	0	1	3½
Carbolic Acid (crystallised 40°) .. .. .. per lb.	0	0	6¼
,, (crude 60°) .. .. per gallon	0	1	9
Creosote (ordinary) .. .. ,,	0	0	1½
,, (filtered for Lucigen light) .. .. ,,	0	0	2½
Crude Naphtha 30 % @ 120° C. .. .. .. ,,	0	0	5¾
Grease Oils, 22° Tw. .. .. per ton	2	10	0
Pitch, f.o.b. Liverpool or Garston .. .. .. ,,	1	11	6
Solvent Naphtha, 90 % at 160° .. .. .. per gallon	0	1	3
Lucigen" and "Wells Oils .. .. ,,	0	0	2½
Copper .. .. per ton	38	10	0
,, Sulphate .. .. ,,	15	10	0
,, Oxide (copper scales) .. .. ,,	39	5	0
Glycerine (crude) .. .. ,,	15	0	0
,, (distilled S.G. 1250°) .. .. ,,	42	0	0
Iodine .. .. nett, per oz.	0	0	9
Iron Sulphate (copperas) .. .. per ton	1	4	0
,, Sulphide (antimony slag) .. .. ,,	2	0	0
Lead (sheet) for cash .. .. ,,	10	10	0
,, Litharge Flake (ex ship) .. .. ,,	13	0	0
,, Acetate (white ,,) .. .. ,,	26	10	0
,, ,, brown ,,) .. .. ,,	16	0	0
,, Carbonate (white lead) pure .. .. .. ,,	20	0	0
,, Nitrate .. .. ,,	20	0	0
Lime, Acetate (brown) .. .. per ton	5	17	6
,, ,, (grey) .. .. ,,	10	5	0
Magnesium (ribbon and wire) .. .. per oz.	0	2	3
,, Chloride (ex ship) .. .. per ton	2	10	0
,, Carbonate .. .. per cwt.	1	17	6
,, Hydrate .. .. per ton.	17	0	0
,, Sulphate (Epsom Salts) .. .. .. per ton	3	0	0
Manganese, Sulphate .. .. ,,	17	15	0
,, Borate .. .. per cwt.	2	12	6
,, Ore, 70 % .. .. per ton	4	5	0
Methylated Spirit, 61° O.P. .. .. .. per gallon	0	2	2
Naphtha (Wood), Solvent .. .. ,,	0	3	7
,, ,, Miscible, 60° O.P .. .. .. ,,	0	4	3
Oils:—			
Cotton-seed .. .. per ton	21	5	0
Linseed .. .. ,,	22	10	0
Petroleum, American .. .. per gallon	0	0	5¼
Stearine .. .. per ton	28	0	0
Phosphorus (yellow) .. .. per lb.	0	2	2
,, (red) .. .. ,,	0	2	9
Potassium (metal) .. .. per oz.	0	3	7
,, Bichromate .. .. nett per lb.	0	0	4½
,, Carbonate, 90% (ex ship) .. .. .. per ton	16	15	0
,, Chlorate .. .. per lb.	0	0	7¼
,, Cyanide, 98% .. .. ,,	0	2	0
,, Hydrate (Caustic Potash) 80/85 % .. per ton	21	15	0
,, ,, (Caustic Potash) 75/80 % .. ,,	20	0	0
,, ,, (Caustic Potash) 70/75 % .. ,,	19	10	0
,, Nitrate (refined) .. .. per cwt.	1	2	6
,, Permanganate .. .. per cwt.	3	2	6
,, Prussiate Yellow .. .. per lb.	0	0	10½
,, Sulphate, 90 % (ex ship) .. .. .. per ton	9	15	0
,, Muriate, 80 % (do.) .. .. .. ,,	8	7	6
Silver (metal) .. .. per oz.	0	2	4½
,, Nitrate .. .. ,,	0	2	10
Sodium (metal) .. .. per lb.	0	3	2
,, Carb. (refined Soda-ash) 48 % .. nett per ton	4 17 6		
,, ,, (Caustic Soda-ash) 48 % .. ,, ,,	4 2 6		
,, ,, (Carb. Soda-ash) 48% .. .. ,, ,,	4 0 0		
,, ,, (Alkali) 58 % .. .. .. ,, ,,	3 15 0		
,, ,, (Soda Crystals) .. .. .. ,, ,,	2 12 6		
,, Acetate (ex-ship) .. .. ,,	14	15	0
,, Arseniate, 45 % .. .. ,,	11	0	0
,, Chlorate .. .. per lb.	0	0	8¼
,, Borate (Borax) .. .. net, per ton.	23	0	0
,, Bichromate .. .. ,, per lb.	0	0	3¾
,, Hydrate (77 % Caustic Soda) (f.o.b.) net pr. ton	10 15 0		
,, ,, (74 % Caustic Soda) ,, ,, ,,	9 17 6		
,, ,, (70 % Caustic Soda) ,, ,, ,,	8 17 6		
,, ,, (60 % Caustic Soda) .. ,, ,,	7 17 6		
,, ,, (60 % Caustic Soda, cream) (f.o.b.) ,,	7 15 0		
,, Bicarbonate .. .. ,,	6	12	6
,, Hyposulphite .. .. ,,	5	12	6
,, Manganate, 30% .. .. ,,	16	0	0
,, Nitrate (95 %) ex-ship Liverpool .. .. per cwt.	0	9	7½
,, Nitrite, 98 % .. .. per ton	29	10	0
,, Phosphate .. .. ,,	15	0	0
,, Silicate (glass) .. .. per ton	5	7	6
,, ,, (liquid, 100° Tw.) .. .. .. ,,	4	5	0
,, Stannate, 40 % .. .. per cwt.	3	0	0
,, Sulphate (Salt-cake) .. .. per ton.	0	17	6
,, ,, (Glauber's Salts) .. .. ,,	1	5	0
,, Sulphide .. .. ,,	8	10	0
,, Sulphite .. .. ,,	5	15	0
Strontium Hydrate, 100% .. .. ,,	8	10	0
Sulphocyanide Ammonium, 95 % .. .. per lb.	0	0	7¼
,, Barium, 95 % .. .. ,,	0	0	5
,, Potassium .. .. ,,	0	0	7½
Sulphur (Flowers) .. .. per ton.	7	12	6
,, (Roll Brimstone) .. .. ,,	5	15	0
,, Brimstone: Best Quality .. .. .. ,,	3	17	6
Superphosphate of Lime (26%) .. .. ,,	2	7	6
Tallow .. .. ,,	25	0	0
Tin Crystals .. .. per lb.	0	0	6
English Ingots .. .. ,,	74	0	0
Zinc (Spelter) .. .. per ton	15	10	0
,, Chloride (solution, 96° Tw.) .. .. .. ,,	5	10	0

(F.O.R. / 10 ton lots)

THE

EMICAL TRADE JOURNAL

AND

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Notices.

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ments, Announcements in the Directory Columns, and all Adver- aid, are charged at the Tariff rates, which will be forwarded on

ts intended for insertion in the current week's issue e office by **Wednesday morning** at the latest.

PUFF! PUFF!! PUFF!!!

WE have read with a considerable amount of astonishment an article in the current issue of a contemporary which, judging from its title, is, or should be devoted to the interests of those seeking for sound and profitable undertakings in which to embark their capital. The article to which we refer deals with the prospects of the Electro-Chemical Company, and as we venture to think that groundless laudation is in the long run more inimical to any undertaking than open and honest criticism, we propose, in the interests of the public and of the said company to make a brief analysis of the eulogy before us. We select this article because it is a fair specimen of the genus puff, and our remarks will apply equally well to the great majority of the so-called favourable notices of new but untried companies which are continually being paraded before the eyes of a public which in such matters is not competent to judge for itself.

We are told that the prospects of the Company are "brilliant," and as far as we can gather, the reasons for this statement are as follows. (1) The Company has waiting for it as much business as it can undertake. (2) It will be able to make large profits by supplying the wants of its own directors and shareholders. (3) Prices are maintained at a high level by the United Alkali Company. (4) The unassailable patents held by the Company allow of the production of Bleach and Caustic at a much less cost than by other processes now in vogue. (5) The Company has a remarkably strong board of directors.

If we elect to take all these statements on the unimpeachable authority of our contemporary, we are bound to acquiesce in its deductions, but we regret to say that we have long been compelled to abstain from accepting such statements as these without the addition of the grain of salt, which we prefer to supply ourselves.

In the first place, we are told that the new Company has as much business as it can undertake already waiting for it. We read this to mean that *if* the Company can produce at a sufficiently low figure, it will have no difficulty in moving off its products at a profit. This is perfectly true. We regret that the small word "if" should mar the beauty of the prospect, but nevertheless it cannot very well be dispensed with. On turning to any of the current chemical reports of the day, we find that the state of chemical business is not such as to warrant additional production. As we have pointed out before, the world is already supplied—and over supplied—with bleach and caustic, and the only justification that can exist for increasing the production is, and we say it most emphatically, a decrease of cost. With this small proviso the good news that plenty of business is waiting will apply not only to the Electro-Chemical Company, but also to almost every other undertaking on the face of the earth.

But we are also told that the Company will be able to make large profits by supplying the wants of its own directors and shareholders, exclusive of outsiders. If much reliance be placed upon this anticipation, surely the Company should have been called the Co-operative Electro-Chemical Company, but we fear that any hope of this kind must be very largely discounted. Whatever the production of the Electro-Chemical Company may be, that quantity will have to be displaced from the present market for the products of the Company to find room. We all know the effect of the displaced quantity. It will not quietly submit to annihilation, but becomes a most powerful factor in the cutting down of price. The result will undoubtedly be that though consumers of bleach and caustic may thus benefit, their gain will be the loss of the unlucky producers of the articles.

The third reason that is adduced as pointing to the "brilliant" future is the fact that prices are maintained at a high level by the United Alkali Company. Here our surprise culminates. Why the *present* action of the United Alkali Company in maintaining prices at what our contemporary calls a "high level" should predicate a brilliant *future* for a competing company we are absolutely at a loss to understand. We should have preferred to reason quite differently. The question we should have preferred to put would have been this: "To what extent does the Electro-Chemical Company rely upon a level of prices which is artificially maintained?" We think that to rely at all upon such artificial maintenance is a delusion and a snare, and if the Company is to have a brilliant future, it must be able to face a level of prices that will kill other undertakings now in existence.

This brings us to the fourth consideration, and here we find ourselves in what we still prefer to call a land of conjecture. If the patents are unassailable, and if they allow the monoply of a cheapened production, then the Company will realise all the good things that are prophesied of it. We are far from expressing an adverse opinion, but at the same time we cannot bring ourselves to believe that the success of the Company's processes has been proved on a commercial scale. We have had occasion before to criticise somewhat severely the estimates which were put before the public when the Electro-Chemical Company was floated, and we are bound to say that we have never seen those criticisms satisfactorily answered. It must be borne in mind that a very large proportion of those scientific men who are qualified to hold an opinion upon this matter, share our views in this respect, and as the stages of paper controversy and laboratory demonstration may be considered to be past, the Company is only on the threshold of its real undertaking, and we prefer to suspend judgment till a fair trial has been made on the scale which is now proposed.

With regard to the fifth point, it is scarcely in our province to say much. We believe the directorate to consist of honourable men, who are not responsible for the misleading statements which are too often set afloat as to the position and prospects of the Company. We believe their faith in it to be honest and sincere, but we trust it has a firmer foundation than those we have here attempted to analyse. Intending investors should remember that, whatever may be said to the contrary, we are dealing with a new process for making a quantity of material that is not wanted, and that the Company's only chance of success lies in producing this extra quantity at a price that will compete favourably not with the current selling price, however high or however low this may be, but with the current price of *production*.

Legal Intelligence.

AN IMPORTANT WHITE-LEAD ADULTERATION CASE.

THE VALUE OF ANALYSIS.

An action of great importance was decided on May 28th, in the American Law Courts, at Cincinnati. The suit has been very lengthy, and the evidence most voluminous. The depositions of certain witnesses created considerable sensation. It appears that in August, 1891, the Walker Paint Company brought suit against the Anchor White Lead Company, and the Eckstein White Lead Company, claiming that the defendants were issuing false analyses of the plaintiff's goods; that the plaintiff did not use barytes in its so-called strictly pure oxidised white lead, and never did; and that the defendants were issuing circulars containing analyses by chemists, which showed the goods of the plaintiffs to be adulterated with barytes. The action was for injunction, and for £10 000. damages.

The defendants admitted that they had published the analyses complained of, and their principal ground of defence was that the statements contained in the analyses were true, and the plaintiffs as manufacturers of white lead, under their different brands, had during the years 1889 and 1890, notwithstanding their statements to the contrary, used barytes as an adulterant.

The defendants further claimed that having had numerous analyses made of the product of the plaintiff, all of which showed the presence of this adulterant, they were justified in publishing these analyses for the purpose of informing the trade and the public generally of the fact that the plaintiff's goods were adulterated. Nearly 50 different analyses were introduced in evidence on both sides, and in those made of goods manufactured prior to August, 1891, the presence of barytes as an adulterant was almost invariably shown.

The plaintiff attempted to establish, by the testimony of officers and three employés, that no adulterant had ever been put in the goods; but the Court found that the analyses showed conclusively that such was not the fact.

The Court also found that the claim of the plaintiff that the defendants tampered with or caused to be adulterated any of the kegs of the plaintiffs' goods, was wholly unfounded and unsupported by any evidence worthy of belief.

The Court further found that the testimony of Alex. Matthews was entitled to no credit whatever, and that the testimony of William B. Burke was as deliberate a case of perjury as has ever been attempted in a Court.

In giving judgment, Judge Smith said: "In conclusion, my finding is that by a clear preponderance of the evidence, the defendants have established, and to my mind beyond all reasonable doubt they have proven, that during the years 1889 and 1890, when the analyses complained off in the petition were made, the plaintiffs were sending out goods as first-class which were adulterated with barytes; that the analyses complained of in the petition were true, and that the petition should be dismissed upon that ground. It is therefore unnecessary that I should consider the other defences made by the defendants."

Judgment accordingly.

THE GAS SUPPLY OF LONDON.

THE quality of the gas supplied to the City of London for the week ending June 9th, 1894, was good. According to the report of Mr. W. J. Dibdin, chemist and superintendent gas examiner to the London County Council, the tests made at the various testing stations showed no deficiencies in illuminating power. The following figures have been prepared from the report, and show the average composition of the gas calculated on the mean test:—

Company.	No. of districts tested.	Illuminating power (in stand. sperm candles). Mean average.	Sulphur. Grains in 100 cb. ft. Mean average.	Ammonia Grains in 100 cb. ft. Mean average.	Sulphuretted Hydrogen
Gas Light and Coke Co.	14	16·34	9·22	0·47	Nil.
South Metropolitan Gas Co.	6	16·81	10·76	0·43	Nil.
Commercial Gas Co. ..	2	16·55	7·25	0·4	Nil.

The standard gas supplied by thess companies should have an illuminating power of 16 sperm candles, and contain not more than 23 grains of sulphur and 4 grains of ammonia per 100 cb. ft. of gas on an average of three days with a pressure of one inch between sunset and midnight, and six-tenths of an inch between midnight and sunset.

IE DEADLOCK IN THE COAL TRADE CONTROVERSY.

wages question in the coal trade has again become a pro-ent matter of discussion, and the coalowners have apparently agreed upon some decisive movement for bringing about a upon the present rate of pay. For some time past the prin-ncashire coalowners have been prepared to take action for wages, but they have not had sufficient support from other and independent action on their part has of course been out estion. The steadily increasing depression of trade has, how-ed on a more general consideration of the necessity for some in wages being again brought forward, and although in some here is a disposition to await the outcome of the miners' Scotland, a strong feeling prevails throughout the coal trade s there is to be an early improvement in the position of the industries, of which at present there appears to be little or ct, a renewed demand for some substantial reduction in the ges now being paid to the miners is inevitable. For the last e months—in fact practically since the commencement of the re has been a persistent downward movement in prices, which ew cases are now quite 3d. to 6d. per ton under even the low hich were being taken twelve months ago, and which were d for asking for the reduction of 40 per cent. that led to the eeks' stoppage of the pits in all the colliery districts controlled iners' Federation. In Lancashire the Coal Sales Association the leading Manchester colliery concerns have made a strong very partially successful effort to steady prices. Several of Lancashire colliery concerns have seceded from the Association an be bound by the official list rates, whilst a number of the ollieries have from the very first remained outside, with the t competition has been very keen in the open market, and the on has of necessity been compelled to gradually follow the d course of prices. With regard to the gas coal contracts, an has been made by a sort of combination between the Lan-nd Yorkshire proprietors of gas coal collieries to hold out for ce of 1s. per ton upon the keen competitive prices that were t season, and in a few comparatively small contracts that have en settled about 6d. to 9d. per ton above the minimum prices st year has been secured, but that any really substantial upon the 1893 low prices will be generally maintained as he larger and more important contracts would seem to be very

An arrangement was come to with regard to the contracts Manchester Corporation by which tenders might be sent in on an advance of 6d. per ton upon last year, but whether even be obtained is by no means certain. The locomotive contracts *Manchester Guardian*) were also last year competed for at ly low prices, and with regard to these colliery owners would have been more successful in getting better prices, contracts een placed within the last few days in the Wigan district at s of 6d. to 9d. per ton upon the figures that were taken last As is usual during periods of exceptional depression in the for coal, an outlet is sought in the shipping trade for surplus , and in this direction prices have recently been cut excessively low, Lancashire steam coal being freely offered for shipment at not an 6s. 3d. per ton at the pit mouth. Not only in Lancashire ces been excessively cut down, to move away the surplus out-in other districts—Yorkshire, Derbyshire, and Staffordshire—e thing has been going on to quite an equal if not to a still extent, Staffordshire coal having in isolated cases been offered 4s. 6d. per ton at the pit, and what are regarded by the ire coalowners as their special markets have suffered keenly competition of low-priced coal from other districts. Although ers of the Miners' Federation are strongly under the impression mainly in Lancashire, where the movement was inaugurated , that the question of a reduction in wages is now being put the feeling has become much more general throughout the e recently, and on the part of the coalowners' representatives Board of Conciliation, which represents the whole of the districts throughout the country, it was decided to convene g to consider an alteration in the wages.

understanding has, however, arisen between the Executive Miners' Federation and the coalowners with regard to this or a meeting of the Board, the miners' officials contending ccordance with the rules of procedure it should have stated dis-hat alteration in the rate of wages was to be proposed, whilst s holds that the rules do not more than stipulate that when a s convened to consider an alteration in the rate of wages this s only to be simply stated in the request that such a meeting . As this disagreement with regard to the reading of the rules o lead to considerable controversy and possibly to some friction the Coalowners' and Miners' Federations—the former regard-ttitude taken up by the miners' officials as to some extent due e to delay as long as possible the consideration of any altera-tion in the rate of wages,—it will be interesting to quote in full rule 9, the precise reading of which is in dispute. This rule is as follows:—"The secretaries shall, on the written application of either of the parties, made by the chairman and secretary of either party, for an alteration in the rate of wages or an alteration of these rules, or for any of the objects mentioned in clause 4 (which simply applies to the appointment of the chairman and the filling up of vacancies on the Board), call a meeting of the Board within 21 days, at such time and place as may be agreed upon by the secretaries. The application for the meeting shall state clearly the object of the meeting." It is the last clause in the rule—to the effect that the application for the meeting "shall state clearly the object of the meeting"—which the miners' officials rely upon for maintaining their contention that the request for the meeting should have stated precisely what alteration in the rate of wages was proposed for consideration. Mr. Ellis, the secretary of the Coalowners' Federation, believing that he had fully complied with the requirements of the rules, issued circulars convening a meeting of the Board of Conciliation, which was held, on Tuesday last, at St. Martin's Town Hall, London, despite the refusal on the part of the Miners' Federation to send representatives to attend the meeting. Mr. Clifford Smith, of Lancashire, presided.

The Chairman said he was sure it would be a cause of great regret to them all that the representatives of the miners had not seen their way to meet them there to discuss the question of which notice had been given. When that notice was given the rules were very carefully looked into, and the notice was given in the exact words of the rule so as to comply as far as practicable with those rules. There appeared to be three courses open to them. One was to proceed to the consideration of the application which had been made; the second was that owing to the representatives of the men not being present it was impossible to come to any agreement with them, and therefore he took it that under rule 11 they were entitled to submit the question; and the third was to adjourn that meeting for a period in order to give the men's representatives an opportunity of reconsidering the position which they had taken up. That being a Board of Conciliation, he thought it was very desirable that they should not attempt to take any technical advantage, or to stand upon mere technicalities more than was absolutely necessary. For that reason he would suggest the desirableness of adjourning the meeting for a period of 14 days. Of course, if matters then were found to be in the same position in which they found themselves that day, it would no doubt be requisite for them to consider what course should be taken, because it was manifestly quite contrary to the principles of a Conciliation Board that either side should be able to bring matters to a deadlock. After a short discussion it was decided to adjourn the meeting to the 3rd July, when, in the event of the miners continuing to ignore the notices issued calling the meeting, the business in hand will be proceeded with, and the question referred to Lord Shand for settlement.

THE STATE OF THE CHEMICAL TRADES.

IN the Tyne and Wear districts chemical, copper, and cement works are slack, and short time is in certain cases being worked. The glass trade, however, is fairly good. Paper-makers are still quiet. The dyeing trade round Burnley and Accrington is satisfactory, the works being well employed. In the Manchester district the dyeing and finishing trades continue depressed, and the difficulty of obtaining employment is increasing. Employment about St. Helens and Widnes is quiet. Chemical and copper works remain in much the same position, and the glass trade is also quiet. There is no change in the salt trade in the Middlesbrough district. About Leeds most of the dye-houses are working short time. Around Hull the seed-crushing industry is dull, and the oil mills, though usually slack about now, are so much so that some have stopped running altogether. Paint, colour, and varnish works, however, are sufficiently busy to necessitate overtime being worked in some cases. This industry is also active and finding steady employment in the district of Wolverhampton, while enamellers and galvanisers are experiencing a slight improvement. The Birmingham glass trade is reported by makers as even worse than ever. Chemical workers in Derbyshire are well employed, and paper-makers, and dyers and bleachers are reported as busy. In Bristol and neighbourhood there is evidence of an improvement in the oil, cake, and seed-crushing trades. The Cardiff copper-smelting industry is steady.

CONSUMPTION OF SALT IN THE ALKALI TRADE.—The amount of salt decomposed in the manufacture of alkali by the Leblanc and Ammonia-Soda processes in 1893 was 817,171 tons, a net decrease of 7,319 tons, no doubt partly caused by the coal strike. Though the net result shows a decrease, it is a noteworthy fact that the decrease in the quantity decomposed by the Leblanc process amounts to 52,031 tons, while the Ammonia-Soda process shows an increased consumption of 44,712 tons.

Official Memoranda.

(From the Board of Trade Journal.)

THE CHANGES IN THE CANADIAN TARIFF.

The following is an abstract of part of the changes in the Canadian tariff, which take effect from March 27th, ult.:—

Article.	Rates of Duty.	
Ethyl, Alcohol, Methyl, Amyl, and similar products	per gall.	Dols. Cts. 2 10½
Tallow and Stearic Acid	20 %	*ad val.*
Candles	25 %	*ad val.*
Soaps—mineral and dry	35 %	*ad val.*
,, common	per lb.	0 1
Starch, &c., including Farina	per lb.	0 1½
Acetic and Pyroligneous Acid	per gall.	0 15
,, Acid—Glacial	per gall.	0 15
,, ,, when imported for dyeing and calico printing only	25 %	*ad val.*
Nitric, Muriatic, and all Mixed Acids	20 %	*ad val.*
Sulphuric Acid	per lb.	0 0 4/10
,, Ether	per lb.	0 5
Phosphoric Acid	per lb.	0 2
Shale Illuminating Oils (over 30 cts. per gall.)	25 %	*ad val.*
Petroleum and Naphtha and their products	Imp. gall.	0 6
,, Crude, for fuel, &c.	per gall.	0 3
Lubricating Oils (less than 25 cts. per gall.)	per imp. gall	0 6
Paraffin Wax	per lb.	0 2
,, ,, Candles	per lb.	0 4
British Gum, &c.	10 %	*ad val.*
Dry White and Red Leads and Zinc White	5 %	*ad val.*
Ochres and Siennas	20 %	*ad val.*
Paints and Colours, rough	25 %	*ad val.*
,, ,, ground in spirits	per gall.	1 0
Spirits of Turpentine	5 %	*ad val.*
Varnishes, Japans, and Finishes	per gall. and 20%	0 20 *ad val.*
Paris Green, dry	10 %	*ad val.*
Enamelled Iron and Steel Ware	35 %	*ad val.*
Asbestos, Crude	25 %	*ad val.*
Plumbago	10 %	*ad val.*
Salt, fine, in bulk, and Coarse Salt NES	per 100lbs.	0 5
Salt, in bags, &c., which have to bear duty as if imported empty	,, ,,	0 7½

(To be continued.)

CRISIS IN THE CAUCASIAN PETROLEUM TRADE.

Her Majesty's Consul at Batoum, in a communication to the Foreign Office sends the following articles which appeared in the *Caspi*, a newspaper of the district, of which a translation is appended. The articles are a criticism of certain views expressed in a St. Petersburg paper, which remarks that the members of the recently-formed syndicate of naphtha manufacturers, (*C. T. J.*, 361, p. 255) have not yet been able to come to a final arrangement amongst themselves, and at the same time calls attention to those difficulties and misunderstandings which are likely to arise when the kerosene manufacturers attempt to put into practical execution an agreement for the monopolisation of foreign markets. The same paper further arrives at the following conclusions:—

"In general the monopolisation of foreign markets is an undertaking exceedingly difficult to realise in a manner satisfactory to all parties. Suppose, however, that it should be possible to attain this end, it will only be advantageous to those engaged in the trade and highly detrimental to the industry itself." This latter deduction, says the *Caspi*, we utterly fail to comprehend.

The clearest possible demonstration that the interests of those engaged in the naphtha trade go hand in hand with the interests of the naphtha industry itself, is afforded by the present state of that industry.

Owing to the desperate competition of the American, prices on foreign markets have fallen to so low a level that there are absolutely no markets left on to which we can introduce our kerosene, and consequently during the past few months the despatch of kerosene from Baku, for export abroad, has almost entirely ceased; this has naturally entailed the stoppage of work at the factories, and, as an inevitable consequence, a rise in the price of naphtha residuum, and an insufficient supply of this fuel for Russian factories and railways has resulted. On the other hand, rates for transport by water have fallen considerably, and many craft have found it absolutely impossible to obtain cargoes.

Thanks therefore to the depressed state of the markets abroad almost half the industries of Russia have suffered, but of course the naphtha industry most of all, and it stands to reason, that under these circumstances any development of the Russian naphtha trade is entirely out of the question. . . . . It must simply die out.

If an amicable arrangement could be concluded with the Americans, and the markets of the world divided, an entirely different prospect would be opened up. The profits of those engaged in the naphtha industry would be a distinct gain not only to the whole of Russia, but also to the Russian Exchequer. After having undergone a period of complete inactivity, this important industry would receive a fresh impetus. We are at a loss to understand by what possible means the *St. Petersburg Viedomosti* has arrived at any other conclusion. An undertaking can neither flourish nor be advantageous to those concerned, unless it brings in a profit: these two conditions are inseparable. It was only in order to attain these combined advantages that the Government, through the intervention of the Minister of Finance, was induced to interfere in the matter of the formation of a general union. But, as we have already shown, sufficient has not yet been done for the attainment of the object in view. It is possible that some further sacrifices may yet be required.

In its next issue the *Caspi* continues its criticism, saying:

Only yesterday we had occasion to call the attention of our readers to the actual state of our naphtha trade, and to point out the fact that, as yet, the creation of a union had not been the means of bringing about an improvement in the situation, nor did it fulfil the hopes of the kerosene manufacturers and naphtha producers. Both at the factories and wells stagnation, and not activity, is noticeable. The more perspicacious firms reckoned upon this when they joined the union, but unfortunately with us, all are not equally well acquainted with the conditions of foreign trade and the difficulties of the question at issue, for the advantageous solution of which time is required; and in order to bear up against the difficulties created by the bitter struggle with the Americans, so as to emerge victorious in the end, still further sacrifices may perhaps be required.

With figures in hand, we proved at the proper time that the reduction by five copecks per pood at the rate of transport on naphtha would absolutely bring no advantage; that even with this reduction of the tariff the kerosene manufacturers would receive no profit whatever on their products, but that on the contrary they would still be losers; and finally that a difference of five copecks would not force the Americans to be more yielding. The Government itself understood this, and only certain cautious motives caused it to reduce the tariff temporarily by five copecks only, and not by eight and a half copecks per pood, as the union of kerosene manufacturers had requested.

Later experience has shown how correct were our views. The export has not only not increased, but has, on the contrary, diminished. The Americans, who possess immense reserves of capital, with a view to driving out their competitors from the position which they had heretofore occupied, cut down prices on the foreign markets, and flooded, not only England, but the far East, with their kerosene; this naturally they could not do without sacrifice. The results were soon felt, and the depressed state of our export trade became even more acute.

The more short-sighted firms, who joined the union with the idea that they would secure immediate profits, became indignant, and murmurings arose amongst the members. Nobel, in his capacity of agent, refuses altogether to take over goods for sale abroad, preferring to wait for an improvement in the situation, and has limited his operations to forwarding his own kerosene by the Trans-Caucasian railway for shipment *viâ* Batoum to Odessa and South Russia in general. The other commercial agent, A. J. Mantascheff, who supplied tthe far East and exported kerosene in cases, has also been forced to res rict his trade to the same limits. And, after all, how can the trade be carried on when London is closed to us and the price of case oil has fallen to 29—30 pence per case, which price, with a railway freight on the Trans-Caucasian line of 14 copecks, hardly leaves 2—3 copecks per pood for Baku? The only firm which still receives kerosene for sale is the Caspian Black Sea Company, and that only in limited quantities. As a striking instance of the serious state of affairs, it suffices to say that the foreign steamer *Russian Prince* has already been lying at Batoum over eight weeks waiting for her cargo, and the first group of kerosene manufacturers are paying her demurrage at the rate of 480 roubles (£48.) per day.

It is not surprising that under such conditions the quantity of kerosene transported by the Trans-Caucasian railway during the last month amounted, as can be seen from the return of tank-cars just published, to only 1,693 cars instead of 6,193, fixed by the firms forming the first group of the union.

Of course the Bakuins might follow the example of the Americans, and make still further sacrifices in order not to give in, but they have absolutely no accumulated funds, and, furthermore, they are engulfed in the losses which they have already suffered.

In our opinion, the Government, having taken in hand the alleviation of the calamity, the only course which it can now pursue is not to

alf way with its fostering measures, but to reduce the railway rate her 3½ copecks, as the kerosene manufacturers originally ted, and then, as we previously stated, the Americans, who have dilection for working at a loss, will perhaps prove more accom- ng. The most fitting time for taking such a step has now ; negotiations with the Americans are on the point of being in Paris, and our delegates have already proceeded to that city. s Consul, Mr. Stevens, further remarks that since the date when rticles were written (May 9th) no improvement has taken place, e prospect is still gloomy.

THE SINGAPORE KEROSENE TRADE.

official report of this industry states that the stocks of kerosene cember 31st last were as follows:—American, 81,500 cases; n, 4,900 cases; Russian (bulk equal to) 47,000 cases; Langkat, cases. Total, 157,950 cases.

stocks existing on the 31st March last, show the sales for con- on and export to have been during the quarter:—American, cases; Russian, 4,100 cases; Russian (bulk equal to) 30,000 and Langkat, 52,800 cases, equal to 129,900 cases, or an e of 43,300 cases per month.

following were the final quotations in March:—Devoe, 1·90 er case; Langkat (in wood), 1·57½ dols. per case; Russian l (buyers supplying packages), 1·15 dols. per case.

E BEET SUGAR INDUSTRY IN CALIFORNIA AND NEW ZEALAND.

French Consul at San Francisco states that, according to esti- made by the Federal Inspector of the Sugar Industry in Cali- the production of sugar in that region for the 1893 season was ,000 lbs., an increase of about 14,000,000 as compared with the for the preceding season. These estimates have been made in to assist Congress in fixing the sums which should be paid this bounties accorded by the McKinley tariff to sugars of American acture, these bounties amounting last year to a total of $672,000. onsul refers to the great progress made during the last four years sugar industry, which has quadrupled its production, notwith- ig the fall in the price.

ording to a recent report by the Belgian Consul at Auckland, uestion was raised a few years ago of establishing beet-sugar es in the colony, and especially in the "Waikato," where the mental cultivation of beetroot was carried out. It was established doubt that the beetroot would grow well there and would give yield. But, by reason of apathy on the part of the farmers, or e other reason, the idea was not carried through.

sugar-refining company established at Auckland is connected milar Australian establishments, and this association controls the ; it possesses sugar-cane plantations in the Fiji Islands and in sland, where the employment of coolies assures cheap labour, ence arrives raw sugar intended for refining. This company determined to keep the market monopoly; it makes large sacri- n order to prevent the importation of Chinese and Mauritius and lowers prices.

er normal conditions, the manufacture of beet-sugar in the seems to offer few chances of success.

CHEMICALLY PRESERVING POTATOES.

paper on this subject M. Schribaux states that from the us experiments made on the best method of preserving potatoes been established that any action should not be on the skin of ber, but rather on the tuber itself. I have proved, says M. aux. that by radically destroying the shoots when more or less ped, the potato retains all its qualities at least till the time when t year's growth has become abundant in the market.

here the number of potatoes to be dealt with is small it is nt to remove the eyes, or the shoots, with the point of a knife, er still, with a steel penholder in which a steel pen has been with the point turned inwards; this will be found to act in the of a gouge. By inserting this for rather more than a tenth of into the potato, the eye is easily removed. I have in the ory potatoes of the year 1891 which have shrivelled owing to ation, but of which the substance is firm, and has not sensibly rated. A singular circumstance is that they have become sweet, ntain a sugar which differs in no way from cane or beet sugar.

ay be said that the process is slow, but I find that an unskilled r was, in a working day of 10 hours, easily able to deal with of potatoes. Cooking potatoes, which have a small number , can, of course, be easiest dealt with. If a large quantity have reated a chemical process must be resorted to in order to destroy ots.

The tubers then are immersed for a space of from 10 to 12 hours in water, containing from one to two per cent. of ordinary sulphuric acid. The potatoes must afterwards be dried and put in a cool and well-aired place. The acid solution should be placed in a receptacle of wood.

The solution keeps good for a long time if the tubers are carefully cleaned so that no earth adheres to them before being put into it.

The acid acts in the following way:—It eats in for about a tenth of an inch in the region around the eyes where the skin is tender, whilst it does not affect the rest and thicker part of the skin. About the eyes it will be found that an incrustation has formed, which completely blocks them up.

The following remarks are to be noted:—It is useless to treat any but sound potatoes in this way, as the treatment does not stop disease, but merely keeps the sound potatoes wholesome. The potatoes should be carefully cleared from earth before being put into the solution, as earth adhering checks the action of the acid. It is well before treating any large quantity of potatoes to experiment on a few as follows:—Take three dishes of glazed earthenware and fill them with solutions containing respectively 1 per cent. of the acid, 1½ per cent. and 2 per cent. Then immerse half-a-dozen potatoes and leave them in for from 10 to 12 hours. After that take them out and dry them, and after three days' interval examine them by cutting into the eyes to see whether these have been destoyed. The external aspect of the potato will, moreover, show whether the action of the acid has been too great on the skin, and the proper strength of the solution to be used on the particular class of potato to be dealt with will by this means have been arrived at. The skins of some potatoes, it should be observed, are much coarser than those of others, and the solution requires to be regulated accordingly."

AN INGENIOUS ELECTRIC METER.

AN electric meter, lately designed by Mr. A. G. Waterhouse, is based on the principle that the amount of gas given off by a pair of platinum electrodes in acidulated water is strictly proportional to the current passing. To measure the gas he employs a very pretty and ingenious device. To the top of a small glass bell, two or three inches high, is attached an inverted syphon, the bend of which is about half way down the side of the bell. The latter is completely immersed in water, and placed over the electrodes, so that the gas given off accumulates in the upper part. As soon as the water in the bell has sunk to the level of the bend of the syphon the gas rushes out through the syphon, and in so doing jerks up the bell, which, by means of a ratchet and a train of wheels, makes a record on a dial each time that it is emptied. By suitably adjusting the capacity of the bell the dial can be made to indicate the quantity of electricity consumed in any units that may be desired. In practice Mr. Waterhouse uses two of these electrolytic measurers in each meter, and they are arranged to work differentially. From the positive main a derived circuit is taken which divides into two branches. Each of these passes through a measuring cell and then joins the negative main at either side of a small resistance inserted in it. These two branches together form a shunt round the resistance, and therefore part of the current in the negative main will pass through them. This current will in one branch oppose, and in the other reinforce, the current flowing direct from the positive main through the derived circuit, and as it will vary with the number of lamps in use, it will proportionately weaken the current passing through one measuring cell and strengthen it in the other. Evolution of gas therefore, as the current consumed by the lamps becomes greater, will diminish in one and increase in the other, and the difference between the readings of the two cells will represent the actual amount of energy used. The arrangement of resistances is such that when no lamps are burning and the derived circuit is not interrupted, the two measuring cells give off equal amounts of gas, and therefore cancel each other's reading.

INSANITARY BAKEHOUSES.—A general inspection of bakehouses in London made by the County Council has revealed disagreeable facts which render it desirable that the law with reference to bakehouses should be speedily amended. Of about 200 bakehouses 118 are situated wholly or partially below the ground level. In 28 bakehouses the ventilation was quite insufficient, and with four exceptions these were all underground. Thirty-seven bakeries were found to have an inlet not aerially disconnected from the drains. Many bakehouses were in a dirty condition, due in some cases to a disregard of cleanliness in the conduct of the business; and this was most marked in houses where confectionery was also made. The vital statistics in the report raise some suspicion that the occupation of a baker is attended with certain dangers to health.

KINGZETT'S "SULPHUGATORS."

THIS novelty is a development of the well-known sulphur candles, made by the Sanitas Company, Limited, Bethnal Green, E. From the inspection we have had the opportunity of making, they appear to consist of rolls or bandages coated with sulphur. When a light is applied to either end of the "sulphugators," they immediately take fire and burn with a long blue tongue of flame until all the sulphur is consumed.

They may be burned to the best advantage in the small perforated metal cages which are specially constructed for the purpose, and one of which is enclosed in each box of "sulphugators." Any suitable vessel such as an old tin box or saucepan, or frying-pan, or small flower pot will, however, suffice. As an extra precaution against fire, the vessel in which the "sulphugators are burnt may be stood in another shallow vessel of water, or a little water may be even placed in the vessel in which the "sulphugator" is burned. In the last-named case, however, there is a small loss of fumigating power, as some of the sulphur will remain unconsumed in the water.

They burn much quicker than solid sulphur candles, on account of the freedom with which the air necessary for combustion gains access to the burning sulphur; and they have other great advantages, as will be obvious from the consideration that they can be obtained in small sizes suitable for fumigating hutches and fowl-pens, etc.

Our illustration shows the larger size (3d.), the smaller ones retailing at one penny each. The following particulars give an idea of the capabilities of these fumigators, and afford a guide as to their use:—Each of the larger "sulphugators" yields about 63 litres of sulphurous gas, and suffices for the disinfection of about 225 cubic feet of space. Each of the smaller "sulphugators" yields about 16 litres of sulphurous gas, and suffices for the disinfection of about 56 cubic feet of space.

THE INDIAN PAPER-MAKING INDUSTRY.

THOSE interested in paper mills in India are congratulating themselves on the stimulus given by the Customs duty on imported paper to the native industry, which was already making good progress under the influence of a low rate of exchange. It has created a differential tax in favour of local mills, and practically ordained that in all Government offices increased preference should be given to the cheaper Indian product. Commercial offices and private consumers of paper in large quantities are also said to be withdrawing their home orders and giving them to Indian manufacturers. There are nine paper mills in India—four in the Bombay Presidency, three in Bengal, one in Lucknow, and one in Gwalior. In 1892 the total out-turn was 26½ million pounds of paper, against only 7½ million pounds ten years previously. Latterly also the quality has been much improved, and, with descriptions suitable to the demand, an increasing sale, owing to its relative cheapness, has been experienced. There can be no doubt as to the encouragment given by an import duty to all industries in India which in any way compete with foreign productions, and with this addition to the previous premium arising from the low level of exchange English producers in other branches must be prepared for increased competition in their present trade with India.

Correspondence.

**** We do not hold ourselves responsible for the opinions expre our correspondents.*

KIESELGUHR.

To the Editor of The Chemical Trade Journal.

SIR,—In last week's issue of your *Journal* I note some anal Kieselguhr, which are of interest.

I have lately had occasion to analyse a diatomaceous depos similar character to Kieselguhr. I am not quite certain as locality from whence it has come, but it was not Germany. sample contained:

Silica	92.00	per cent.
Oxide of Iron and Alumina	2.50	,, ,,
Water	5.50	,, ,,

In colour it was far whiter than German Kieselguhr.

I am, etc.,

Manchester, June 18th, 1894. GEORGE H. HURST, F.C

ANSWERS TO CORRESPONDENTS.

V. AND SONS.—We should like to learn the result of your inquiries.
A. AND B.—Much too old.
J. M.—Thanks for advices. It was alright.
C. T. K.—We are obliged to you for your attentions.
C. H.—See this week's issue as well.
L. P. (Paris).—We hope to receive it in due course.
C.—Your query is having our best attention.
N. A. Co.—By letter.
W. N.—We have been unable to learn of any such work.

THE ST. HELENS WATER-SOFTENING WOR

AT the last meeting of the St. Helens Town Council, Dr. R son's analysis of softened water at Brown Edge softening was submitted, and the Water Engineer stated that the averag 13·4

The Water Engineer reported that the filtering cloths used in softening became useless so soon that the cost of cloths was £ week. They became filled up with lime.

Mr. Martin remarked that the only means of reducing the cos to try and find means of softening the cloths.

Mr. Urmston: Has the cost exceeded the estimate?

The Water Engineer: The present rate has.

Mr. Martin said the cost was £500. or £600. a year for cloths

The Water Engineer said the estimate for cloths was based o estimate of the Water Engineer of Southampton, who read a pap the subject. He estimated that the annual cost for two million g would be £56. He (Mr. Lackland) should say that £556. wou nearer the mark.

The Town Clerk: It is a cost of about ¼d. per 1,000 gallon cloths.

Mr. Dixon-Nuttall: It is to be hoped that the experiments wit cloths will turn out better.

Alderman J. C. Gamble: I don't understand it. I think the ought to be on the surface, whereas it seems to be deposited insid cloth.

The Water Engineer: In the fibre.

Alderman J. C. Gamble: It ought not to.

The Water Engineer: We are trying it with weak acids and wa

The Chairman: We can't really discuss it now, as it is in the stage of the experiment.

MANUFACTURE OF POTASH ALUM OR ALUMINA.—Eith these two compounds can be prepared according to the foll patented process: Clay and bisulphate of potash, or a mixtu ammonium and potassium sulphates, are mixed and moulded hollow bricks which are heated for two to four hours at a tempe of 250° to 300° C. The potash alum formed is then lixiviate and freed from iron. The residue is pure silica. When the mixt ammonium and potassium sulphates is used, NH_3 is given off, wh collected. The liquor from the lixiviating vats is decompos adding the ammonia thus evolved with the precipitation of alumina, and the formation of a supernatant liquor containing sul of ammonium and potassium, which can be re-used after evaporat

THE NEW NITRATE VENTURE.

ENTLY, in an article on the nitrate industry, we referred to the pening of a new *officina* which was pending. The following sup- tal particulars of this Company, the Lagunas Nitrate Co., are given *Liverpool Journal of Commerce*, as a considerable amount of is being subscribed for shares by capitalists in that city.

stated that so far, with scarcely an exception, the whole of the companies formed for the purpose of working the nitrate s in Chili have been financial successes. If an average was or the year of the amount of dividends paid by the whole of the ies it would probably be found that the return was not far short er cent. upon the capital invested. This result is all the more ng when it is remembered that the companies have been limited nitrate committee to an equivalent of seven months' production. er words, the companies have earned their dividends although ve worked to a very little over half their capacity. Statistics hat Germany already consumes half of the total quantity of manufactured; this is sufficient evidence that the Teuton is well the advantages of the commodity as a manure In America ewhere trials are being made to ascertain its effects in regard to leguminous crops, and it is confidently expected by those who lready acquainted themselves with its agricultural value that long the demand from America will be enormously increased. s is very fair evidence that the industry is a growing one, and efore many years as many tons of the manure will be used as s are at the present time. In the meantime, however, the com- n which exists between the producing companies will effectually t any possibility of over-production causing a glut in the market, nsequently a general fall in prices. The company which is to ed to the public this week has been formed for the purpose of ng a third of the property owned by the Lagunas Syndicate. A nformation in regard to the work of the syndicate may be of t. It was established in 1889 for the purpose of acquiring the ve nitrate deposits in the Laguna district. Since then a branch s been constructed by the Nitrate Railway Company, bringing ndicate's property into direct communication with the port of e. A good and sufficient supply of water has been obtained by g the grounds, and an *officina* has been erected capable of pro- 300,000 quintals of nitrate a month. The grounds have been to be very rich, the analysis showing nearly 48 per cent. of . What this means can be best understood when it is remem- that some of the nitrate grounds in the more southern districts, only produce 18 per cent. of nitrate, are being worked at a fair

The capital of the new company will be £900,000., and it is ted that a profit of £300,000. per annum will be earned. If xpectations are realised, the return to the shareholders will be r cent. per annum. Already, it may be remembered, several nd tons of nitrate have been sold in advance at most remunerative

The new company will acquire one-third of the property of ndicate, thus leaving to the latter two-thirds intact for future pment. So favourable, however, is the outlook in the nitrate ry that already the syndicate have made arrangements to erect a *ficina*. Under the existing conditions, the difficulty the companies periencing is not to find purchasers for the nitrate, but to keep with the demand.

s needless to state that Colonel North is to be the chairman of the agunas Company. Throughout he has been the guiding spirit syndicate, and it is chiefly owing to his enterprise and foresight o much has been accomplished. It is an open secret that the onel" regards the Lagunas grounds as being amongst the richest ate deposits in the Chilian Republic, that he is more enthusiastic ver in regard to the great future before the industry, and that so om disposing of any of his nitrate shares he continues to be a buyer.

E FOOD ADULTERATION INQUIRY.—The Council of the London ber of Commerce, in view of the recent appointment of the al Committee to deal with the subject of food adulteration, has rised the formation of a special committee, with power to organise vidence as it might be desirable to submit on behalf of the various interested. The Manchester Chamber has taken similar steps.

E SUPERIORITY OF PATENT EXPLOSIVES FOR BLASTING.—It fidently stated that the Royal Commissioners who have just con- d an inquiry into the causes of explosions in mines, and the part d by coal dust in such explosions, will in their report recommend ohibition of gunpowder in mines that are dry and dusty, and the ion of certain "high explosives" which are held to be incapable iting or exploding coal dust. The report will contain further utionary recommendations with regard to damping the roadways mine in the immediate vicinity of the shot and with regard to moval of accumulations of dust.

Trade Notes.

YOUNG'S PARAFFIN LIGHT AND OIL COMPANY.—The directors of this company announce an issue of £100,000. Six per Cent. Mortgage Debenture Bonds of £100. each, to replace an equal amount of short dated Terminable Debenture Bonds.

OBITUARY.—We regret to announce the death of Mr. J. Brooks, chairman of the Manchester Gas Committee, which occurred at Blackpool on the 17th inst. The funeral took place last Wednesday at St. Luke's, Cheetham Hill, Manchester.

PERSONAL.—Mr. R. J. Price, M.P., and Mr. W. T. Morrison (director of the Buenaventura Nitrate Syndicate, Limited), have joined the board of the Julia-Taltal Nitrate Company. We also learn that *Mr. Wilfred Wyld* has been appointed manager of the chemical works of the Bradford Corporation at Frizinghall, in the place of his father—Mr. John Wyld—whom we recently announced had been appointed to a managership at Birmingham.

NITRATE DIVIDENDS.—The directors of the *Colorado Nitrate Co.* have declared a balance dividend of 4 per cent., making 7 per cent. for the year. The *Liverpool Nitrate Co.* has also declared a dividend of 10 per cent, making 20 per cent. for the year ended June 30th, and payable on that date. The directors of the *Lantaro Nitrate Co.* have paid a dividend of 5 per cent., making with the *interim* dividend paid in January last a dividend of 10 per cent. for the past financial year.

SOME GOOD FROM THE LABOUR COMMISSION.—During the course of its proceedings the Royal Commission on Labour brought together a by no means inconsiderable collection of documents relating to trade unions, the statistics, reports, books, &c., forming a comprehensive library of works dealing with the subject of the inquiry. Instead of dispersing all this material, the Royal Commissioners have authorised its transfer to the National Library at Bloomsbury, and the offer has been accepted by the Trustees of the British Museum.

THE STATE OF THE THAMES.—The Lord Mayor of London has received from Mr. Charles Beadle, of Erith, a sturgeon weighing 280lb., caught in the Thames on the 12th inst. The donor states that the re-appearance of fish in the lower Thames and the improved state of the water are the result of the action the city took in so liberally supporting the committee of merchants, shipowners, and others before the Commission under Lord Bramwell. The reports of that Commission had clearly led to the steps taken by the Metropolitan Board of Works and continued systematically by the London County Council to purify the Thames. That's a pat on the back for would-be preventors of river pollution. They get plenty of kicks.

DR. DALLINGER ON ROTIFERA.—Dr. Dallinger, in a recent lecture at the Royal Institution, London, on the possibilities of microscopy, threw on the screen from an oxy-hydrogen lantern a series of lovely-coloured landscapes, in which members of the *rotifera* family were seen at work. The slides were painted, he explained, from direct observation with the highest powers. The colonies of rotifers had built their tubes out from what appeared on the screen as thick trunks of translucent green trees. In reality these were almost invisible threads of vegetable matter, and the rotifers themselves specks scarcely to be seen by the eye. The most beautiful examples were undoubtedly the floscules. The floscule lives in a crystal vase built in a bower of vegetable scenery. When it pleases her she gracefully glides up her limpid tube and towers like a lily above the neck of the vase, eventually shooting forth from her regal head a superb shower of glassy shafts. This feat Dr. Dallinger admirably illustrated by means of a mechanical slide. Next there was an illustration of the way in which *melicerta ringens* builds herself a tube of ruby bricks, each brick being first cast in a special mould, and afterwards laid with the accuracy of a skilled mason by means of a proboscis and antennæ. These little gem-like bricks are only the one-hundred-thousandth of a cubic inch in size. The bricklaying operation goes on with great rapidity, but until recent microscopic developments were achieved, the laying of the brick could not be traced. Some wonderful examples of high magnification were shown on slides representing the life-history of the microbes which play so important a part in the process of animal putrefaction. Life in these minute creatures is all carried on in a single cell, which contains a nucleus, and has attached to it a flagellum. Reproduction goes on at an enormous rate. Each microbe splits itself in two within five minutes, and the two new microbes so formed go on repeating the process at a geometrical ratio of increase for four or five hours. At length a certain proportion—about eighty-five per cent.—of the descendants seem to die out, but the rest carry on the perpetuation of the race in quite a new way. A pair of individuals coalesce in an amœboid fashion, and then ensues a wonderful cycle of changes in the nucleus, the final upshot being that the globule bursts and scatters forth myriads of infinitesimally minute spores, all of which grow rapidly into adult microbes, and commence the cycle of reproduction over again.

Sales of Nitrate Property.—The Secretary of the Chilian Legation has received advices from the Government stating that there have been sold in public auction at Santiago, ten nitrate properties for the sum of £628,200., the upset price having been advertised at £563,000.

Bacteriological Laboratory for Liverpool.—We are pleased to learn that Mr. George Holt, of Liverpool, has made a gift of £5,000 to the University College of that city to be devoted to the maintenance of the bacteriological and pathological laboratories.

The Spontaneous Combustion of Lamp Shades.—*Apropos* of the observations of Professor Dupré on this question (*C. T. J.* 368, p. 371), Messrs. Crompton and Bros., papermakers, of Elton, near Bury, Lancashire, write to the *Times*, stating that while they do not doubt that the writer of the letter is quite sincere in believing that the lamp shade in his house fired spontaneously, they cannot believe such a thing to be possible. They add further: Since reading the letter referred to we have made numerous experiments with many of the various colours of the papers we make, and particularly with the chrome colours, and in no single instance can we get any one of them to fire spontaneously. We have had the papers in question heated in a heating-chamber to nearly 100 degrees Fahrenheit, with the result that in every case the papers when taken therefrom remained in their original uninjured condition, notwithstanding their being subjected to the heat named for several hours. We have also saturated the papers with chromic acid and dried them, and even after this severe test have failed to get them to fire spontaneously at the heat named, or under similar circumstances. Our crêpe and crinkled coloured papers have now been used many years in the making of lamp and candle shades, and the letter in your paper is the first suggestion we have had before us that the papers can fire spontaneously, and one which, in our opinion, cannot be proved to be the case. We hope shortly to introduce these papers entirely fireproof." This is a very wise and practical way of settling the question. Whether they have, or could spontaneously ignite matters not now, as they are going to be made so that they cannot in the future.

NOTICES.

LONDON AGENTS

Booksellers and Newsagents may now obtain supplies of
"THE CHEMICAL TRADE JOURNAL"
From
MR. JOHN HEYWOOD,
2, Amen Corner,
On usual trade terms. Paternoster Row, E.C.

FOREIGN REMITTANCES.

Owing to the inconvenience created by the various ways in which foreign subscriptions are remitted, we respectfully beg to inform subscribers that a *Crossed* Money Order is the most satisfactory method of remitting, both for them and ourselves. In the case of a Money Order, a letter advising us of same should always be sent, otherwise, owing to post-office formalities, much delay in tracing and acknowledging foreign remittances is inevitably entailed in this country.

Market Reports.

REPORT ON MANURE MATERIAL.

On spot there has not been much passing, but for forward delivery a fair amount of business has been done. The value of 75/80% Florida rock remains 8d. per unit in cargoes, 1894 shipment, c.f.i. to Continental ports, and 7¾d. c.i.f. to U.K. For cargoes of South Carolina River rock, 6½d. is probably now the nearest value, and 6¾d. for Peace River. Continental phosphates remain unchanged. Handy cargoes of River Plate bones would probably fetch £4. 13s. 9d., and perhaps £4. 15s. per ton, but £4. 12s. 6d. is nearest value of those of large size, £4. 17s. 6d. and £5., according to description, now asked for East Indian bone meal, but £4. 15s. and £4. 17s. 6d. may be quoted as actual values, autumn shipment, delivered Liverpool, London, Glasgow or Hull. Crushed Kurrachee bones are selling at £4. 15s. per ton.

The nitrate market is quiet, but fairly steady. The spot value is 9s. 4½d. per cwt. for ordinary quality, and 9s. 6d. for fine. Due cargoes are worth about 9s. per cwt., and late autumn shipments 9s. to 9s. 1½d. per cwt.

TAR AND AMMONIA PRODUCTS.

Benzol is depressed, and 50/90's has lost the halfpenny of last Carbolic acid, both crude and crystasl, remain unaltered. naphtha is fairly steady, and solvent unchanged. Pitch is still to 32s., f.o.b. East Coast.

Sulphate of ammonia is easier in price, but there is still little alte in the actual position. Quotations are not only erratic, but in instances misleading, and are likely to be till the turn of the hal Beckton value is £14. The other nearest quotations are: Londo side makes £14., Liverpool £13. 17s. 6d., Hull £13. 18s. £13. 17s. 6d., and Leith £13. 17s. 6d. to £14.

MISCELLANEOUS CHEMICAL MARKET.

There is very little alteration in the position of the mark alkalies generally. For caustic soda there is better inquiry and actual business being done, though stocks in makers' hands are to cover all requirements. Current prices are unchanged, and subj usual variations, are as follows:—f.o.b. Tyne, 77%, £10. 15s.; Liverpool, 74%, £9. 17s. 6d.; 70%, £8. 17s. 6d.; 60%, £7. 17 cream, 60%, £7. 15s. per ton, 10-ton lots and upwards. Alkali, is without improvement, trade on the whole, being flat, and pric at £3. 2s. 6d per ton, bags, makers' works, both for present an ward delivery. For Leblanc ash, prices are variable, accord requirements, 1d. per degree, f.o.b., in casks, being about the price for ordinary quality. Soda crystals flat. Chlorate of and soda dull, with a lower tendency, at 7d. and 8d. per spectively. Bleaching powder continues an active market, bo home and export, and prices are unchanged at £7. 10s., net, softw f.o.r., makers' works, and £8. to £8. 5s., net, hardwoods, Litharge dull, and prices weak, £13. is the nominal quo Acetates of lime continue to improve, and prices are firm. The qu offering is but small, and higher prices in the near future m anticipated. Acetic acid is in fair request, but price uncha Sugar of lead very quiet, and prices are all in buyers' favour. A of soda still offering at cheap rates. Borax can still be had usually low prices, but sales are difficult to effect. White pow arsenic steady at £14. to £14. 5s. at Garston, according to brand

LIVERPOOL OIL AND COLOUR MARKET

Wednesd

OILS.—Palm oil is steady, and holders are firm at £21. 1 ton for Lagos on spot. Forward July delivery has been done less. Olive is firm, but quiet, at £28. 10s. to £37. per tun, accord quality. Linseed is steady, at 22s. 6d. to 23s. per cwt. for Liv makes in export casks. Cottonseed is rather dull, but 21s to 2 per cwt. is still the quotation for Liverpool refined. Castor virtually unaltered from last week's position. Good seconds C is steady at 2 5/16d., and first pressure French 2⅛d. per lb. Tal steady, with moderate sales, at 24s. to 25s. per cwt. for American, South 26s. to 29s., and Australian 24s. to 27s. pe Rosin is in moderate request, with common at 3s. 7½d. pe Spirits of turpentine continue to rule steady at 24s. per cwt. Pet is unaltered in prices, though inquiries are scarce: American 4 5½d. according to quality, Russian refined 3 5/16d. to 3¾d. per g

COLOURS are steady without alteration in Ochres: Oxfordshire, common, £10., medium, £12., best, Derbyshire, common, 40s.; medium, 50s., best, 60s.; Welsh, 70s., seconds, 50s., and common, 18s.; Irish, Devonshire, 45s.; French, J.C., 55s. to 60s.; M.C., 65s. to 67s. 6d. U Turkish quiet; Devonshire, 50s. to 55s. White lead, and of zinc unchanged. Venetian red, £6. 10s. to £10. C Prepared oxide, 9s. 9d.; black, 9s.; blue, 6s. Zaffres: 3s. 6d.; No. 2, 2s. 6d. Oxide of iron: Common, £6.; m £10.; finest, £20. Zinc oxide, £23. to £25.

THE METAL MARKETS.

LONDON, Wednesday.—Pig iron, unchanged: Scotch w closed at 41s. 10½d., Middlesbrough 35s. 6d. cash, and hemat Copper, steady: Chili bars, G.O.B.'s and G.M.B.'s, clo £38. 2s. 6d. to £38. 5s. cash, and £38. 8s. 9d. to £38. 13s. 9 months. Tin, quiet: Straits closed at £70. 2s. 6d. to £70. cash, and £70. 10s. to £71. three months; Aus £71.; English ingots, £73. to £73. 10s. Lead, dull: S £9. 1s. 3d.; English, £9. 2s. 6d. to £9. 5s. Silesian Spelter, o £15. 7s. 6d. Nickel, 1s. 8d. Antimony, £32. 10s. Quicksilve hands, £6.; second hands, £5. 19s. *Copper shares*, steady 1 1 5/16 to 1 7/16; Copiapo, 1 9/16 to 1 11/16; Libiola, 2⅞ to 3⅛; Ma Barry, 2¼ to 2½; Rio Tinto, 12¾ to 13⅜; Tharsis, 4¼ to

ASGOW, WEDNESDAY.—Market easier, with moderate business. done at 41s. 11½d. and 41s. 11d. cash; closing with buyers 10½d. cash, sellers ask 41s. 11d. Cleveland closes with at 35s. 6d. cash, sellers ask 1d. more. Cumberland hematite with buyers at 44s. cash, sellers ask 1d. more. Middlesbrough le closes with buyers at 43s. 6d. cash, sellers ask 43s. 9d. closes with buyers at £38.

LVERHAMPTON, WEDNESDAY.—Pig iron firm, and prices Staffordshire cinder sorts 37s. to 38s., best part mine 45s., and hot blast 55s. upwards; Northampton metal 39s. 6d. to 40s., hire 41s. to 41s. 6d., and Lincolns 43s. Manufactured iron nd export inquiries slightly better: Black sheets nominal at s. doubles, and £6. 7s. 6d. singles, hoops £6. 10s., merchant 6., common £5. 10s. Steel in good demand: Basic boiler £6. 5s, bridge plates £5. 10s.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, TUESDAY.

threatened wholesale stoppage of mining production remains not ully confirmed, while at the same time there are no reliable ions of any immediate abandonment of the project entirely. The s are very firm, and possibly the men are not quite so staunch; nday first, it is thought, will see a large instalment of stoppage, however, may not be persevered in.

tone of the market seems to indicate a belief that the rupture be lasting, or serious in its effects. Sulphate of ammonia, has been mounting so long, has marked the conjuncture by a away in price, instead of a continued advance; and nitrate of so is lower.

eral chemicals remain slow of movement, at prices nominally un- d.

mineral oil and solid paraffin sections are unchanged, being iet, although makers watch the course of the agitation of the with some anxiety. Fuel supplies are made good for a time, uld not stand any prolonged stoppage of output.

f prices current are:—Soda crystals £2. nett, Tyne; soda /52° £3. 12s. 6d. to £3. 17s. 6d. nett, Tyne; white alkali £4. 10s. to £5. 5s. nett, Tyne; alum in lump £5. 10s. nett, Glasgow; soda, white, 74° £9. 17s. 6d., 70/72° £8. 17s. 6d., 60/62° £8., ream 60/62° £7. 15s., all nett, Liverpool; bleaching powder cs., nett, Tyne; saltcake, 17s. 6d.; borax, English refined, 10s., and boracic acid, £32. 10s. nett, Glasgow; bicarbonate of 5-cwt. casks, £6. 10s., and 1 cwt. casks £6. 15s. nett, Liverpool; mate of potash, 4½d. nett, for Scotch and English deliveries (for , 4¼d. nett, f.o.b. Glasgow); bichromate of soda, 3¾d. nett, for and English deliveries (for export, 3½d. nett, f.o.b. Glasgow); te of potash, 7¼d. less 5%, Liverpool; nitrate of soda, d.; sulphate of ammonia, £14. prompt, Leith; sal-niac, first and second white, £39. and £37. nett, any port; te of copper, £15. 10s., less 5% Liverpool; paraffin scale, hard 1⅞d. ⅞d. to 2d. per lb.; paraffin wax 120° semi-refined 2⅜d. to 2½d.; n spirit (naphtha), 3½d. to 4d. per gallon; paraffin oil (burning), rd No. 1 grade, 5d. at works, for Scotch buyers (English sales, to ¾d. lower); ditto (lubricating) 865° £3. 10s. to £3. 12s. 6d.; £4. to £4. 15s., and 890/895° £4. 15s. to £5. 10s. Week's ts of raw sugar at Greenock were 10,800 bags, and 129,141 mats.

ULL PAINT, OIL, AND COLOUR REPORT.

TUESDAY.

North-Eastern Railway and Dock Company have decided to a further sum of £72,000. in extending the dock accommodation which is urgently needed.

S.—For the season of the year the trade continues of a very character, some firms express even surprise at the number of having turned up within the last few days. The import of during the week has been 3,872 qrs. from Bombay, Libau, dam, and River Plate. The import of cottonseed has been 1,427 om Alexandria, and 334 tons from Smyrna. Amongst the prin- mports up to date for this year as against the same time last year e following:—Linseed 195,953 qrs., against 144,487 qrs.; rape- 57,593 qrs., against 17,218 qrs.; cottonseed 114,773 tons, 104,662 tons; olive oil 11,195 casks, against 5,558 casks; rape 922 casks, against 3,360 casks; oil cakes 9,196 tons, against tons; tallow 9,059 cwts., against 16,400 cwts.; turpentine barrels, against 3,532 barrels. Linseed oil has been rather and closes with buyers at 20s. 10½d. naked spot; month, L paid; July-August 20s. buyers; Sept.-Dec. sold at 18s. 9d. for the week 1,500 cwts. Refined cotton oil rather easier, naked accepted on the spot; July-August offer at 19s.; November- nchanged at 17s 9d. Export of refined for the week 2,900 cwts. Rape oil continues flat. Olive oil unchanged. Turpentine, 24s. Castor oil, first pressure, 2¼d. to 2½d. per lb. Cod oil quiet, £17. to £19. per ton. Pine oil from 6s. per cwt. Sod oil from £16. to £22. per ton. Engine and cylinder oils from 1s to 2s. per gallon.

CAKES.—Linseed cakes quiet; 95% pure £6. 10s. to £6. 15s. per ton. Russians, £6 15s. Oilcakes, £5. 12s. 6d. to £5 17s. 6d. Cotton cakes unchanged: Best makes, £4. 2s. 6d. to £4. 5s., with fair demand; seconds in poor request at £3. 17s. 6d. Rape cake unchanged.

PAINTS.—The trade continues brisk, and even better trade is anticipated after the turn of the month. Venetian red dry, £4. per ton; blue black, £4. 5s. per ton; mineral black, £4.; levigated umber, £4. per ton; yellow ochre from £3. per ton. All casks free for shipment. Other articles unchanged.

TYNE CHEMICAL REPORT.

TUESDAY.

Chemicals continue quiet, and prices unaltered. Bleaching powder in rather better demand, at £7. 5s. per ton. 76/77% Caustic soda, £10. 10s. per ton. Soda crystals, £2. per ton, gross weight. Sulphur, £3. 17s. 6d. per ton.

Bleaching Powder, softs, £7. 10s. per ton, nett; hards, £7. 15s per ton. nett; caustic soda, 76/77%, £10. 10s. per ton, nett; do., 70%, £9. per ton, nett; recovered sulphur, 2 cwt. bags, £3. 17s. 6d. per ton, nett. soda ash, 48%, £3. 12s. 6d. per ton, nett; do., 52%, £3. 16s. 3d, per ton, nett; do, 56%, £4. per ton, nett; alkali, 36%, £2. 15s. per ton, nett; white alkali, 48%, £4. 10s per ton, nett; do., 50%, £4. 15s. per ton, nett; do., 52%, £5. 5s. per ton, nett; hyposulphite of soda, 5-7 cwt. casks, £5. per ton, nett; do., 1 cwt. kegs, £5. 10s. per ton, nett; silicate of soda, 75° Tw., £2. 17s. 6d. per ton, nett; do., 100° Tw., £3. 12s. 6d per ton, nett; do., 140° Tw., £4. per ton, nett; soda crystals, casks, £2. per ton, gross weight; do., 2 cwt. bags, £2. per ton, nett; chlorate of potash, 7½d. per lb., less 6%; pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £4. 2s. 6d, per ton, nett; blanc fixe, £7. 10s. per ton, nett; chloride of barium, £7. 10s. per ton, nett; carbonate of alumina, £28. 15s. per ton, nett; aluminate of soda, £33. 15s. per ton, nett; in 5 ton lots, £28. 10s. per ton, nett.

SALT.—South Durham salt steady, at 10s. and 10s. 6d. per ton, f.o.b. Tees.

COALS are firmer all round in view of the threatened strike in Scotland, and generally, collieries throughout Northumberland and Durham are working full time. Best Northumbrian steam, 10s. 6d. and 11s. per ton; second class, 9s and 9s. 6d. per ton; small steam, 4s. 6d. and 5s. per ton; bunker coal, steadier, 7s. per ton; coke, in fuller demand, 13s. and 14s. per ton.

New Companies.

Bacillite Sewage Purification Syndicate, Limited. CAPITAL £30,000, in shares of £5 each. This company has been formed to purchase the patent of Mr. A. P. Hope, for the treatment of sewage, and to carry on the business of constructors of purification works, etc. The subscribers to the memorandum of association are:—J. H. Hope, Imperial-buildings, Leicester, merchant; J. Pendered, Wellingborough, auctioneer; L. C. Knight, 30, Church-street, Wellingborough, agent; T. Pendered, Market-square, Wellingborough, auctioneer; T. Gillit, Oxford-street, Wellingborough, butcher; W. J. Ford, Wellingborough, innkeeper; J. T. Curtis, 32, Cambridge-street, Wellingborough, manufacturer.

British Cyanides Company, Limited. CAPITAL £50,000, in shares of £50. each, of which 150 are founders' shares. The company has been formed to carry on the business of manufacturers and dealers in cyanides and similar products. The subscribers to the memorandum of association are:—H. Chance, Leamington, alkali manufacturer; A. M. Chance, Edgbaston, alkali manufacturer; J. F. Chance, 51, Prince's-gate, S.W., M.A.; G. S. A. Wright, The Elms, Edgbaston, manufacturer; J. J. Hood, 21, Shepherd's Bush-road, W., chemist; A. Salaman, 1, Fenchurch-avenue, E.C.; chemist; J. W. Wilson, Edgbaston, manufacturer.

Cambrian Clay Company, Limited. CAPITAL £30,000., in shares of £1. each. This company has been formed to acquire certain quarries in Flint now held by the Cambrian Fire Clay Company, Limited, and also beds at Denbigh, and to trade as lime burners, etc. The subscribers to the memorandum of association are:—J. B. Purchase, 11, Queen Victoria-street, E.C., solicitor; E. Piercy, Clapham, clerk; J. S. Marsden, 137, Sebert-road, E, architect; A. Marshall, Hornsey, clerk; A. Mahoney, 9, Romola-road, S E., gentleman; A. B. Frye, Brixton, clerk; H. Capstick, 116, Adelaide-road, N.W., accountant.

James Macpherson, Limited. Capital £12,000., in 3,000 ordinary shares of £1. each, and 9,000 similar preference shares. This company has been formed to carry on the business of manufacturing chemists at Paisley, N.B. The subscribers to the memorandum of association are:—J. Glover, Paisley, manufacturer, 5; A Fisher, Paisley, engineer, 5; W. H. Glover, Shetland, minister, 5; J. Macpherson, Paisley, manufacturer, 25; G. Macpherson, senr., Dunoon, slater, 20; G. Macpherson, junr., Paisley, manufacturer, 25; J. V. Cluny, Dunoon, solicitor, 25.

The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of George E. Davis and Alfred R. Davis, who report professionally upon the value of Chemical Patents.

APPLICATIONS FOR ENGLISH LETTERS PATENT.

Preparing Moist Purple Ore for Smelting. E. Böcking. 10 820. June 4.
Electrolytic Extraction of Aluminium from Clays. A. F. B. Gomess. 10,823. June 4.
Chemical Disaggregation of Complex Pyrites for the Extraction of Valuable Metals. M. Body. 10,827. June 4.
Improved Disinfectant. S. A. Vasey and C. F. Townsend. 10 846. June 4.
Filter for Syrups and Heavy Liquids. G. Rae. 10,886. June 5.
Apparatus for Evaporating and Extracting Brine, etc. A. Chapman. 10,906. June 5.
Improvements in the Manufacture of Steel. W. P. Thompson. 10,923. June 5.
Manufacture of Starch. R. Wilson. 10,956. June 6.
Producing Vinegar or Acetic Acid by means of Ozone. E Pew a Blenheim. 10,983. June 6.
Dyeing Wool with Chromium Lakes. E Hoffmann. 11,077. June
Improvements in Filtering Water, etc. E C. Chamberland. 11 040.
Protecting Metals from Oxidation during Heating. F. Siemens. June 8.
Smoke-Consuming Apparatus. T. T. Vernon. 11,145. June 8.
Improved Process and Apparatus for the Manufacture of Sodiu H. Lake. 11,168. June 8.
Improved Apparatus for Treatment of Sewage. J. E. Keirby. June 9.
Oil Filters A. Thiele 11 223. June 9.
Heating and Condensing Apparatus. D. B. Morison. 11,226. June
Manufacture of Oxides, Sulphates, and Sulphides of Zinc from Ashes, Blend and Carbonate and Complex Ores Containing Zinc, Silver. Copper, Manganese, Iron, etc. A. Crossley. June 9.

Gazette Notices.

PARTNERSHIPS DISSOLVED.

J. Sharp and W. Dollery, wholesale perfumers and soap makers, und style of Sharp Bros., Southampton-row, Bloomsbury, W.C.
T. Morrow and J. Morrow, chemical manufacturers, Kearsley, under the T. Morrow & Son.
A. Haacke and C. Lauer, fossil meal composition merchants, Kieselguhr Hackney Wick, N.E., Liverpool, and Glasgow, under the style of A and Co.
W. Hanson and E. Hanson, Halifax, dyers, sizers, and bleachers, un style of Taylor & Hanson.

BANKRUPTCY ACTS, 1883 and 1890.

Adjudications.

St. George, Arthur French, Earl's Wood, Surrey, and Marine-stree mondsey, S.E., chemist and electrician.
Stringer, Charles, Kingston, Hants, oil and colour merchant.

IMPORTS OF CHEMICAL PRODUCTS AT THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending June 9th.

Acetate of Lime –
U. S., 206 pkgs. Lister & Biggs
Acetic Acid—
Holland, 70 pkgs. F. J. Putz & Co.
,, 50 Phillipps & Graves
,, 100 Beresford & Co.
Belgium, 5 T. H. Lee
Alkali—
Germany, 780 c. P. Hecker & Co
France, 460 Arnati & Harrison
Germany, 5 pkgs. L. & I D. Jt. Co.
Holland, 4,000 c. R. Waters
Alum—
Germany, 13 pkgs. Ohlenschlager Brs.
Ammonia—
U. States, 60 pkgs W. Balchin
Ammonium Chloride—
Holland, 4 cks. Kaltenbach & Schmitz
Antimony—
N. S. W., 30 t. H. Bath & Son
Antimony Ore—
Portugal, 50 t. J. Bamber
Sydney, 100 Vivian, Younger & Co.
Australia, 41 W. B. Marcus
Asbestos—
U. S., £1,800. Beck & Pollitzer
France, 82 Mory & Co.
Barytes—
Germany, 19 cks. P. Jantzen
,, 57 D. Storer & Sons
Holland, 20 brls. Little & Johnston
,, 24 cks. W. Taylor & Co.
Belgium, 68 D. Storer & Sons
,, 61 Magee, Taylor & Co.
,, 11 Leach & Co.
,, 20 Willoughby
Camphor—
Japan, 65 tbs. R. & J. Henderson
,, 67 Lewis & Peat
Germany, 24 cks. Elkan & Co
Caoutchouc—
C. America, 77 c. R. G. Hall & Co.
Savanilla, 3 Prop Bull. Wf.
Majunga, 18 S. Figgis & Co.
,, 67 Lewis & Peat
Natal, 12 L. & I. D. Jt. Co.
E. Indies, 32 ,,
Germany, 114 ,,
Zanzibar, 8 Clarke & Smith
Madagascar, 4 Procter Brs.
, 24 McKellar, Carr, & Co.
Castor Oil—
France, 20 cks. J. T. Morton
,, 40 brl. Beresford & Co.
,, 57 pkgs. Lucas & Spencer's Wf., Ld.
E. Indies, 17 cks. Cayzer, Irvine & Co.
Caustic Potash—
France, 50 c. Petri Brs.
,, 64 J. A. Reid
,, 10 drs. F. J. Putz & Co.
Belgium, 100 c Petri Brs
Chemicals (*otherwise undescribed*)
Holland, £8 G. Rahn & Co.
Germany, 15 H. Lambert
,, 19 51 pkgs. A. & M. Zimmermann
,, 23 pkgs Phillipps & Graves
,, 29 17 cks. T. H. Lee
Belgium, 10 ,,
France, £10 McKellar, Carr & Co.
Citrate of Lime—
Italy, 10 pkgs. C. Webster
,, 20 Thames S. T. & L. Co, Ltd.
Cream of Tartar—
Spain, 9 pkgs. W. C. Bacon & Co.
France, 10 ,,
,, 20 H. W. Peabody & Co.
,, 10 B. & F. Wf. Co.
,, 2 cks. J. L. Lyon & Co.
,, 2 pkgs Ross & Deering
Holland, 20 Kirkpatrick & Co.
Cyanides—
Holland, 5 pkgs. F. Boehm
Dextrine—
Germany, 10 pkgs. Phillipps & Graves
,, 200 W. Balchin
,, 76 Pronk, Davis & Co.
Dyestuffs—
Argols
Italy, 43 pkgs. Thames S. T & L. Co., Ld.
,, 526 B. Jacob & Sons
Extracts
Austria, 300 pkgs A. J. Humphrey
France, 535 Boutcher, Mortimore & Co
,, 12 T H. Lee
Denmark, 96 McDougall & Co.
,, 1 ck. J Sinclair & Son
Belgium, 13 cks. T. H. Lee
,, 20 pkgs. J. L. Levinstein & Sons
Fustic
B. W. I, 6 t. Union L. Co.
Indigo
C. America, 10 srns. Chalmers, Guthrie & Co
B. W. I. 1 cs. J. H. Hall
E. Indies, 349 chts. L. & I. D. Jt. Co.
,, 5 Elkan & Co.
,, 20 Ross & Deering
,, 8 London & Hanseatic Bank. Ld.
,, 11 Forbes, Forbes & Co.
,, 20 R. & J. Henderson
Myrabolams
E Indies, 667 pkgs. Baxter & Hoare
,, 4,098 W. Shelcott
,, 335 L. & I. D. Jt. Co.
Saffron
Spain, 1 pkge. L. & N. W. Ry.
Sumac
Italy, 350 pkgs J. Kitchen, Ld.
,, 50 W. France & Co.
,, 100 W. Baxter & Co., Ld.
Tanner's Bark
Natal, 17 t. A & W. Nesbitt
,, 50 Boutcher, Mortimore & Co.
,, 61 Flack, Chandler & Co
France, 13 L. J. Levinstein & Sons
Belgium, 12 Leach & Co.
Turmeric
E. Indies, 154 pkgs. Prop. Bull Wf.
,, 111 S. Figgis & Co.
,, 40 Hoare, Wilson & Co.
Valonia
A. Turkey, 17 t. Schlosser Bros.
Farina—
Holland, 130 pkgs. J Barber & Co.
,, 50 H. Lorenz
,, 100 Ohlenschlager Brs.
, 100 T. H. Lee
Glucose—
Germany, 316 pkgs. 330 c. J. Barber & Co.
,, 25 202 Prop. Chmbln.'s Wf
U. States, 1,020 1,002 R. G. Hall & Co.
,, 100 600 Deering & Robottom
,, 450 2,526 L. Sutro & Co.
,, 250 250 Prop. Chmbln.'s Wf.
,, 50 275 C. So
,, 750 750 Barrett,
,, 999 999 L. & I. D.
,, 998 1,000 C. F. V
Infusorial Earth—
Germany, £40 Seaward B
Iron Sulphide—
Germany, 2 pkgs. Burgoyn
Manure—
Chili, 2,220 t. W. Mont
Germany, 10 J. Kn
,, 86 pkgs. Beresfor
Peru, 1,086 t. Anglo-Cont.
E. Indies, 28 A. Hunte
Methyl Alcohol—
U. States, 224 brls. J
,, 35 W.
,, 130 Rosenberg,
,, 25 cks. Elka
Germany, 5 brls. Stei
Belgium, 5 dms.
,, 10 Lister &
Mica—
E. Indies, £110 W. M. Smith
Ochre—
France, 92 bgs. W. A.
Holland, 6 cks. Phillipps &
France, 174 22 brls. W. H
,, 21 pkgs. O'Hara &
Germany, 2 cks. H. L
Spain, 14 Hemingway
Paraffin Wax—
U. States, 75 brls. G. H.
,, 220 H. W Peabody
,, 15 cs. Welch, Perri
Phosphate Rock—
France, 575 t. A. Hunte
Picric Acid—
U States, 12 pkgs. Beresfor
,, 12 W. & S. B
Pitch—
N. Russia, 300 brls. Fellows,
France, 30 cks. Poth, Hil

Plumbago—
Germany, 55 cks. B. Gallaway
Potash—
Canada, 123 c. Charles & Fox
Potassium Bicarbonate—
Holland, 30 c. A. & M. Zimmerman
Potassium Carbonate—
Germany, 4 pkgs. H. Lambert
France. 1 ck. F. J. Putz & Co.
Potassium Chlorate—
Belgium, 25 pkgs. J. W. Drysdale & Co.
Potassium Permanganate—
Holland, 5 pkgs. J. Barber & Co.
" 10 City Coml. Wf., Ld.
Pumice Stone—
Italy, 1 t Magee, Taylor & Co.
" 2½ C. S. Lovell
" 12 F. Claydon & Co.
Quicksilver—
Italy, 500 btls. L. & I. D. Jt. Co.
Spain, 4,000 flks. N. M. Rothschild & Sons
Rosin—
U. States, 500 brls. Prod. Broker's Co.
Belgium, 22 Pillow, Jones & Co.
Saltpetre—
E. Indies, 696 bgs. Perkins & Homer
" 1,251 Lucas & Spencer's Wf
Germany, 6 cks. Brown & Elmslie
" 4 Petri Bros.
" 222 P. Hecker & Co.
Holland, 85 bgs. "
Starch—
Belgium, 50 pkgs. F. Rosenthal & Co.
" 160 Fellows, Morton & Co.
" 180 Leach & Co.
" 1,222 Prop. Scott's Wf.
Germany, 1,320 Horne & Co.
Holland, 80 Carey & Sons
" 20 A. G. Robinson & Co.
" 1,635 Little & Johnston
" 420 A. Starch
" 96 Phillipps & Graves
" 185 Taylor Brs.
" 400 Vokins & Co.
" 320
France, 5 Dutrulle, Solomons & Co.
Stearine—
France, 200 bgs. 136 cks. Beresford & Co.
" 180 Walbaum & Tosetti
Belgium, 197 H. Hill & Sons
Sulphur—
Italy, 10 t. J. Greig
" 10 J. Puddy & Co.
" 5 F. Smith
" 10 T. T. Creed
Sulphur Chloride—
Holland, 15 pkgs. Typke & King
Talc—
France, £80 B. & F. Wf. Co.
" 20 Stobbs, Wilson & Co.
Tallow and Stearine—
Germany, 5 cks. T. H. Lee
U. States, 30 pkgs. W. & W. Young
Tartaric Acid—
Holland, 2 pkgs. Kirkpatrick & Co.
Tin Salts—
Germany, 2 pkgs. H. Lambert
Turpentine—
Savannah, 3,024 brls. Prod. Broker's Co., Ld.
N. Russia, 51 cks. E. Tuteur & Co.
Ultramarine—
Holland, 5 cks. Phillipps & Graves
" 4 pkgs. Haeffner, Hilpert & Co.
" 25 Hernu, Peron & Co.
Belgium, 6 brls. W. Harrison & Co.
" 4 cks. Leach & Co.
Germany, 14 pkgs. H. Lambert
" 60 G. Ward & Sons
Varnish—
Germany, 4 pkgs. H. Lambert
France, 13 Flageollet & Co.
" 15 J. Burnett & Sons
U. States, 4 Randall Brs.
" 23 Pinchin, Johnson & Co.
" 7 Huntley, Brown & Co.
" 2 Wilkinson, Heywood & Co.
Verdigris—
France, 2 pkgs. B. & F. Wf. Co.
Vermilion—
Hong Kong, 10 cs. Blundell, Spence & Co.

White Lead—
Belgium, 1 brl. J. L. Lyon & Co.
Holland, 46 cks. Ross & Deering
" 41 Spies, Bros. & Co.
Germany, 4 H. Lambert
" 20 Willoughby
France, 19 J. Watt & Son
Wood Pulp
Sweden, 476 pkgs. C. S. Lovell
Denmark, 280 G. F. Green & Co.
Norway, 6,030 C. Christophersen & Son
" 170 Henderson, Craig & Co.
" 5,683 E. J. & W. Goldsmith
" 446 M. Dk Co.
Holland, 807 A. H. Keep
Germany, 203 W. Friedlander
" 50 bgs. J. Barber & Co.
Holland, 100 10 brls. "
" 432 pkgs. Phillipps & Graves
E. Indies, 2,498 bgs. Lawrence & Co.
Canada, 540 pkgs. Moreton Cox Brs.
Zinc Oxide—
Holland, 60 brls. M. Ashby, Ltd.
" 20 pkgs. Prop. Dowgate Dk
Germany, 15 cks. Beresford & Co.
" 82 J. Martin
Zinc Sulphate—
Germany, 7 pkgs. G. Boor & Co.

LIVERPOOL.

Week ending June 7th.

Acetate of Lime—
New York, 2,485 bgs.
Acetic Acid—
Rotterdam, 10 balns.
Acid—
Havre, 51 brls. A. Gibbs, Son & Co.
" 10 sks. Burgoyne Burbidge
Albumen—
Hamburg, 10 cks.
Marseilles, 44 cs.
Antimony Ore—
Havre, 379 bgs. Aillon Aramayo
" 245 Kleinwort, Sons & Co.
" 202 Hainsworth, Watson
" 135 sks. Braillard & Co.
Asbestos—
Genoa, 6 cs. 7 bls.
Barytes—
Antwerp, 100 bgs.
Bone Meal—
Bombay, 2,654 bgs.
Borax and Salt—
Hamburg, 20 cks.
Castor Oil—
Genoa, 19 cs. Evans, Sons & Co.
Leghorn, 9
Marseilles, 30 brls.
Venice, 6 cs.
Cellulose—
Trieste, 63 bls.
Chemicals (*otherwise undescribed*)
Bordeaux, 1 cs.
Rotterdam, 7 cks.
Chrome Ore—
Philadelphia, 20 brls.
Colours—
New York, 2 brls. Taylor, Irvine & Co.
Antwerp, 6 cks 1 cs.
Hamburg, 6
Cottonseed Oil—
New York, 5 brls. M. Bell
N. Orleans, 500
Dyestuffs—
Argols
Bordeaux, 55 cks.
Cutch
Rangoon, 4,666 bxs.
Divi Divi
Hamburg, 305 bgs.
Genoa, 2 cs. Brownbill & Co.
Extracts
New York, 4 brls. Houston & Laurisch
Philadelphia, 65 brls.
Bordeaux, 80 cks.
Marseilles, 25
Antwerp, 30 cks. J. T. Fletcher & Co.
Fiume, 420 brls. De Clermont & Donner
Fustic
Corfu, 4 bdls. P. V. Maniachi
Gambier
Singapore, 168 bgs.
Logwood
Belize, 250 t. P. Leckie & Co.
" 84 B. Cramer
Logwood and Fustic
Nizao, 325 t. L. Porlier & Co.
Madder
Rotterdam, 1 ck.
Myrabolams
Bombay, 6,095 bgs.
Saffron
Valencia, 1 cs.
Sumac
Palermo, 750 bgs.
Valonia
Smyrna, 125 t. 2,091 bgs.
" 50 Essayan Shahum
Patras, 1 bg.
Dyestuffs (*otherwise undescribed*)
New York, 5 brls. Houston & Laurisch
Farina—
Fiume, 90 bls
Trieste, 100 bgs.
Glucose—
New York, 446 brls. T. M. Duche & Sons
" 350
Hamburg, 300 cks.
Guano—
Valencia, 94 bgs. Goulding & Co.
Litharge—
Rotterdam, 4 cks.
Mineral White—
Trieste, 100 bgs. F. Parisi
Ochre—
Rouen, 132 cks. Co-op. W'sale Society, Ld.
Marseilles, 40
Paint—
Valparaiso, 1 cs. W. R. Bitteley & Co.
Boston, 3 W. Minery & Co.
" 50
Potashes—
Rouen, 44 cks. Co-op. W'sale Society, Ld.
Montreal, 35 brls.
Antwerp, 5 dms.
Potassium Carbonate—
Hamburg, 80 cks.
Pumice Stone—
Messina, 45 brls. 7 cks. 2 bgs.
Pyrites—
Huelva, qty. 985 t. Matheson & Co.
Saltpetre—
Hamburg, 2 cks. 10 bgs.
Soap—
Philadelphia, 3 cs.
Seville, 2
Leghorn, 51 bxs. Flinn, Main & Co.
" 600
" 51 75 cs.
Naples, 117 cs Paul Behrends
" 37 J. Braithwaite & Son
Boston, 1
Marseilles, 1 323 bxs.
N. Orleans, 1,404 brls.
Soapstone—
Philadelphia, 112 bgs.
Trieste, 150 bls. W. Harrison & Co.
Sodium Nitrate—
Iquique, 1,450 t.
Starch—
New York, 525 bgs.
Hamburg, 292 cs.
Antwerp, 214 J. T. Fletcher & Co.
Rotterdam, 173
Stearine—
New York, 35 hds.
Antwerp, 20 bgs.
Sulphur—
Catania, 67 brls.
Tallow—
New York, 100 tcs. 200 hds.
Boston, 75 J. Mackie & Co.
Philadelphia, 420
Bordeaux, 11 cks.
Boston, 70 brls.
Tartar—
Bordeaux, 2 cks.
Naples, 1
Tartaric Acid—
Rotterdam, 17 cks.
Tin Perchloride—
Antwerp, 2 cks.
Ultramarine—
Hamburg, 2 cs.
Bremen, 20 cks.
Rotterdam, 5 cs.
Varnish—
Rouen, 25 cs. Co-op. W'sale Society, Ld.
Verdigris—
Bordeaux, 3 cks.
White Lead—
Antwerp, 7 cks.
Rotterdam, 22
Zinc Ashes—
Rouen, 21 cks. Co-op. W'sale Society, Ld
Zinc Oxide—
Antwerp, 10 brls.
Rotterdam, 25 cks.
Zinc Skimmings—
New York, 13 cks.

MANCHESTER.

Week ending June 9th.

Acetanilide—
Rotterdam, 5 cs.
Alum—
Rotterdam, 18 cks.
Alumina Sulphate—
Rotterdam, 32 cks Simpson, Howden, & Co.
Carbonic Acid—
Rotterdam, 20 hmprs.
Chemicals (*otherwise undescribed*)
Rouen, 27 cks.
Colours—
Rotterdam, 8 brls. 7 cs. 4 cks. Simpson, Howden, & Co.
" 46 cks. 1 bx. 15 brls.
Treport, 2
Antwerp, 12 cs. 9
Dextrine—
Stettin, 40cks. Albion Chemical Co.
Dyestuffs—
Alizarine
Rotterdam, 27 brls. Simpson, Howden, & Co.
Extracts
Rouen, 20 cks.
Treport, 20
Fustic
Alexandria, 1 pkge.
Farina—
Stettin, 50 bgs. Poppelreuter & Co.
" 100
Limestone—
Antwerp, 1 crt.
Ochre—
Treport, 21 cks.
Pitch—
Rotterdam, 139 cks.
Potash—
Treport, 21 dms.
Potassium Sulphate—
Rotterdam, 110 cks. Simpson, Howden, & Co.
Soda Crystals—
Rouen, 10 cks.
Starch—
Rotterdam, 140 cs. Simpson, Howden, & Co.
" 6
Antwerp, 160
Stettin, 400 bgs.
Tartaric Acid—
Rotterdam, 14 cks.

HULL.

Week ending June 9th.

Acetic Acid—
Rotterdam, 10 btls. Lofthouse & Saltmer
Acid—
Bari, 43 cks. Wilson, Sons, & Co., Ltd.
Albumen—
S. Petersburg, 75 cs.
Aluminium—
Rotterdam, 3 cs. W. & C. L. Ringrose
Asbestos—
Rotterdam, 2 bls. Hutchinson & Son

Barytes—
Antwerp, 50 bgs. Bailey & Leetham

Castor Oil—
Trieste, 14 cs. Wilson, Sons, & Co., Ld.

Chemicals (*otherwise undescribed*)
Bremen, 5 pks. 1 kg. Veltmann & Co.
Hamburg, 10 cs Wilson, Sons, & Co., Ld.
Antwerp, 332 pks. ,,
Dunkirk, 8 ,,
,, 40 dms.

Colours—
Rotterdam, 101 pks. 9 cks. W. & C. L. Ringrose
,, 3 cs. 32 2 cks 11 kgs. Hutchinson & Son
Danzig, 10 cks.
Bremen, 4 Storry, Smithson & Co.
,, 4 J. & T. Seddon
Riga, 296 Wilson, Sons, & Co., Ld.
Rotterdam, 1 A. Sanderson & Co.
Antwerp, 1 Wilson, Sons, & Co., Ld.

Cottonseed Oil—
New York, 349 brls. Wilson, Sons, & Co., Ld.

Cream of Tartar—
Bordeaux, 10 cks. Rawson & Robinson

Dextrine—
Stettin, 20 bgs. Wilson, Sons, & Co., Ld.

Dyestuffs—
Alizarine
Rotterdam, 32 cks. W. & C. L. Ringrose
Madder
Rotterdam, 1 ck. Hutchinson & Son
Shumac
Palermo, 496 bgs. Wilson, Sons, & Co., Ld.
,, 1,075
Valonia
Smyrna, 122 t.

Farina—
Stettin, 400 bgs. Wilson, Sons, & Co., Ltd.
Antwerp, 50 Bailey & Leetham
Ghent, 302 cs. Wilson, Sons, & Co., Ld.
Harlingen, 1,035 bgs.
Hamburg, 100

Glucose—
Stettin, 20 bgs. Wilson, Sons, & Co., Ld.
New York, 495 brls.

Lime—
New York, 1,653 bgs. Wilson Sons, & Co., Ld.

Manure—
Ghent, 2,140 bgs. 182 t. Wilson, Sons, & Co., Ltd.

Paint—
New York, 20 cs. Wilson, Sons, & Co., Ltd.

Pitch—
Rotterdam, 6 bxs. H. F. Pudsey

Potash—
Hamburg, 24 cks. Wilson, Sons, & Co., Ld.

Pyrites—
Huelva, 1,092 t.

Rosin—
Bordeaux, 2 cks. Sissons Bros. & Co.

Soap—
Copenhagen, 1 cs. Wilson, Sons, & Co., Ld.
Bari, 10 ,,
,, 53

Sodium Nitrate—
Tunin, 12,338 bgs.

Sodium Sulphate—
Bordeaux, 20 bgs. Rawson & Robinson

Starch—
Rotterdam, 109 cs. W. & C. L. Ringrose
Bremen, 3,930 Veltmann & Co.
Antwerp, 100 brls.

Stearine—
Antwerp, 26 pks. Wilson, Sons, & Co., Ld.

Sulphur—
Catania, 50 t. 2,764 pks. Wilson, Sons, & Co , Ld.
,, 37 cks.

Tar—
Helsingfors, 51 brls. J. Good & Sons

Tartaric Acid—
Rotterdam, 4 cks. Hutchinson & Son

Tin Oxide—
Rotterdam, 5 cks. Hutchinson & Son

Varnish—
New York, 17 brls. Wilson, Sons, & Co., Ld.
Hamburg, 1 cs.

Waste Salt—
Hamburg, 150 bgs. Wilson, Sons, & Co., Ltd.

White Lead—
Rotterdam, 10 cks T. F. Chambers & Co.
,, 91 Hutchinson & Son
Antwerp, 92 Bailey & Leetham

Wood Pulp—
Norrkoping, 60 bls. Bailey & Leetham
Helsingfors, 141 J. Good & Sons
,, 115 Furley & Co.

Zinc Oxide—
Antwerp, 5 cks. Bailey & Leetham

GLASGOW.

Week ending June 14th.

Acetate of Lime—
New York, 282 bgs.

Acid—
Boston, 3 kgs.

Alum—
Hamburg, 62 cks.
Antwerp, 13

Aniline—
Antwerp, 5 cks.

Aniline Colours—
Rotterdam, 7 cks. 8 cs. J. Rankine & Son

Aniline Oil—
Rotterdam, 1 ck. J. Rankine & Son

Antimony Salt—
Hamburg, 20 cks.

Asbestos—
Quebec, 224 bgs.

Barium Sulphate—
Antwerp, 21 cks.

Barytes—
Rotterdam, 97 pkgs.

Carbonic Acid—
Rotterdam, 20 tubes. J. Rankine & Son

Castor Oil—
Antwerp, 86 cks.

Chemicals (*otherwise undescribed*)
Hamburg, 4 cs.

Cobalt Ore—
Rouen, qty.

Colours—
Danzig, 17 cks.
Rotterdam, 7 6 cs. J. Rankine & Son
,, 34 pkgs.

Dyestuffs—
Alizarine
Rotterdam, 5 cks. J. Rankine & Son
,, 155 pkgs.
Extracts
Rouen, 26 cks.
Logwood
Jamaica, 435 t. Wm. Connal & Co.

Farina—
Antwerp, 20 bgs.

Ochre—
Rouen, 10 cks.

Phosphates—
Antwerp, 20 bgs.

Potash—
Rotterdam, 74 cks. J. Rankine & Son
Hamburg, 57

Starch—
Montreal, 20 bxs.
Antwerp, 40 cs.

Stearine—
Rotterdam, 18 cks. J. Rankine & Son
Antwerp, 2 bgs.

Waste Salt—
Hamburg, 299 cks. qty. 603 bgs.

White Lead—
Ghent, 10 cks.
Rotterdam, 30 J. Rankine & Son

Wood Pulp—
Montreal, 1,820 rolls.
Sannesund, 2,233 bls. W. Grant & Co.
Christiania, 2,245

Zinc Oxide—
Rotterdam, 35 cks. J. Rankine & Son

Zinc Sulphite—
Rotterdam, 5 brls. J. Rankine & Son

Zinc White—
Rotterdam, 50 cks. J. Rankine & Son

TYNE.

Week ending June 9th.

Alum Earth—
Hamburg, 86 cks. Tyne S. S. Co.

Barytes—
Antwerp, 150 bgs. 72 brls. Tyne S. S. Co.

Carbonic Acid Gas—
Rotterdam, 30 tubes. Tyne S. S. Co.

Colours—
Rotterdam, 1 ck. Tyne S. S. Co.
Antwerp, 2 ,,

Farina—
Antwerp, 10 bgs. Tyne S. S. Co.

Ochre—
Rouen, 360 cks.

Phosphate—
Ghent, 190 t. Langdale's Chmcl. Manure Co.
Coosaw, U.S.A., 3,450 t. ,,

Plumbago—
Antwerp, 3 bgs. Tyne S. S. Co.

Salt—
Hamburg, 120 t. Clephens & Wiencke

Saltpetre—
Hamburg, 235 t. Clephens & Wiencke

Starch—
Rotterdam, 326 cs. Tyne S. S. Co.
Antwerp, 14 ,,

Stearine—
Rotterdam, 5 bgs. Tyne S. S. Co.

Sulphur Ore—
Pomaron, 978 t. Mason & Barry

Ultramarine—
Rotterdam, 1 cs. Tyne S. S. Co.
Hamburg, 1 ck. ,,

White Lead—
Antwerp, 28 brls. Tyne S. S. Co.

Wood Pulp—
Laurvig, 50 bls.

Zinc Oxide—
Rotterdam, 5 cks. Tyne S. S. Co.
Antwerp, 25 brls. ,,

GOOLE.

Week ending June 6th.

Dyestuffs (*otherwise undescribed*)
Boulogne, 3 cs. 5 cks. 6 dms.
Ghent, 9

Dyestuffs—
Logwood
Jamaica, 680 t.

Potash—
Calais, 20 dms.
Dunkirk, 20 3 cks.

Saltpetre—
Hamburg, 1 ck.
Rotterdam, 100 bgs.

Sulphur Ore—
Seville, 1,860 t.

Waste Salt—
Hamburg, 225 t. 694 cks.

GRIMSBY.

Week ending June 9th.

Caoutchouc—
Hamburg, 1 cs.
Antwerp, 2
Rotterdam, 1

Chemicals (*otherwise undes.*)
Hamburg, 7 cs. 2 cks.

Dyestuffs (*otherwise undescribed*)
Dieppe, 3 cks.

EXPORTS OF CHEMICAL PRODUCTS

OF

THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending June 13th.

Acetic Acid—
Canterbury, 25 cs. £46

Acids—
Hong Kong, 68 cs. £92

Acids and Disinfectants—
* ington, 5 pkgs. £24

Alkali—
Shanghai, 4 t. 17 c. £11
Melbourne, 5 15 131
Demerara, 18 3
Sydney, 12 9

Ammonium Carbonate—
Calcutta, 4 cks. £25
St. Petersburg, 3 t. 106
Odessa, 2 75

Ammonium Chloride—
Gothenburg, 1 t. 1 c. £39
Constantinople, 2 10 93
Philadelphia, 17 cks. 116

Ammonium Sulphate—
Jamaica, 4 t. 19 c. £66
Barbadoes, 30 417
Valencia, 130 1,820
Cologne, 150 2,100
Bremen, 120 1,680
Hamburg, 99 9 1,390
Ostend, 28 400
Trinidad, 9 99
Grenada, 1 1 10

Borax—
Gothenburg, 1 t. £8
Odessa, 4 4 c
Calcined Magnesia—
M. Video, 4 cks.
Carbolic Acid—
Rio de Janeiro, 2 t. 6 c.
Melbourne, 4
Kingston, 2 pkgs.
Alexandria, 2 bxs.
Barcelona. 25 cs.
Barranquilla, 2
Marseilles, 6

ic Soda—
e Janeiro, 4 t. 7 c. £49
id, 1 10 7
Bay, 15 18
9 10
Kong, 15 10
urne, 35 15 325
ndon, 19 16
ide, 17 8 189
7 4
a, 6 5
icals *(otherwise undescribed)*
urne, 2 kgs. £15
oon, 23 pkgs. 15
hai, 2 12
ide, 26 7 132
irk, 6 t. 2 c. 73
ide of Lime—
e Janeiro, 12 cks. £35
tchurch, 4 9
Acid—
York, 15 kgs. £102
nhagen, 2 cks. 40
rdam, 1 t. 5 kgs. 3 pkgs. 213
erp, 5 c. 34
els, 1 140
tersburg, 9 15 7 cks. 1,346
a, 17 118
n 5 36
to, 2 13
Acid and Tartaric Acid—
apore, 2 kgs. £12
Products—
iline Oil
York, 9 dms. £240
a, 10 260
iline Salts
York, 39 cks. £260
thracene
eldorf, 112 cks. £520
nzol
euzen, 40 dms. £217
rdam, 97 cks. 275
s, 25 102
gne, 25 90
eosote
sa, 29 brls. £25
eilles, 25 20
rbane
s, 7 pkgs. £24
rbane Oil
real, 9 c. £27
ey, 10 28
phthaline
burg, 320 cks. 173 bgs. £467
feld-on-Rh., 2,340 192
ica, 1 cs. 18
raffin Wax
ey, 100 cs £220
tch
ane, 6 cs. £3
g Kong, 500 cks. 260
Michaels, 6 brls. 5
York, 1,000 295
r
l, 10 rnlts £6
r Oil
enburg, 250 cks £177
Products *(otherwise undes.)*
ras, 6 rnlts. £6
er Sulphate—
ce, 3 t. £48
al, 10 c. 11
leaux, 45 720
a, 20 340
les, 12 10 200
orn, 5 80
bay, 5 80
ive Sublimate—
on, 2 cs. £12
m of Tartar—
nantle, 4 c £17
aide, 1 t. 64
ey, 1 10 96
castle, 10 41
daberg, 5 16
aru, 4 13
fectants—
bourne, 6 cs. £13
o—
idad, 25 t. £281
ochloric Acid—
de Janeiro, 8 c. £28
ras, 17 18
ire—
aga, 29 t. 17 c. £252
ragona, 7 6 63
rcargill, 4 17
nada, 1 23
port, 29 17 180
c Acid—
de Janeiro, 6 c. £32

Phosphorus—
Rio de Janeiro, 2 c. £27
Hobart, 4 50
Lisbon, 4 cs. 44
Potash Crystals—
New York, 7 c. £67
Brussels, 3 cs. 124
Potassium Chlorate—
Rio de Janeiro, 10 c. £31
Potassium Cyanide—
Melbourne, 3 c. £22
Potassium Nitrate—
Barbadoes, 13 t. 7 c. £240
Saltpetre—
Colombo, 14 c. £16
Bahia, 2 t. 15 65
Santos, 8 18 210
Sydney, 1 23
Montreal, 5 3 122
Rosario, 2 10 60
Oporto, 1 2 23
Melbourne, 1 23
Barranquilla, 4 7
Silver Nitrate—
Calcutta, 1 ck. £25
Soda—
Algoa Bay, 13 c. £6
Helsingfors, 1 t. 5
Madeira, 7 2
Cape Town, 6 14
Soda Ash—
Adelaide, 10 c. £4
Soda Crystals—
Cape Town. 4 c. £5
Sodium Acetate—
Melbourne, 6 t. 3 c. £91
Sodium Bicarbonate—
Pretoria, 1 t. £8
Timaru, 1 7
Newcastle, 1 10 c. 10
Hobart, 15 6
Sodium Carbonate—
E. London, 2 c. £6
Sodium Hyposulphite—
Adelaide, 15 t. 3 c. £83
Sodium Sulphate—
Gisborne, 10 c. £5
Spent Oxide—
Wesseling, 117 t. £134
Sulphur—
Cape Town, 6 t 14 c. £70
Newcastle, 7 54 brls. 92
E. London, 75 cks. 75 kgs. 18 c. 109
Madeira, 50 brls. 36
Sulphuric Acid—
Tamatave, 10 cs. £8
Rio de Janeiro, 2 cs. 12
Algoa Bay, 15 30
Aden, 10 10
E. London, 25 18
Colombo, 24 15 34
Superphosphate—
Trinidad, 2 t. £25
Tartaric Acid—
Adelaide. 15 c. £70
Newcastle, 10 40
Bundaberg, 2 11
Sydney, 2 t. 8 240
Tin Chloride—
Riga, 6 c. £23
Verdigris—
Hiogo, 5 c. £14

LIVERPOOL.

Week ending June 13th.

Acetate of Lime—
Rio de Janeiro, 17 c. 3 q. £8
Acetic Acid—
Piræus, 1 t. 5 c. £20
Alkali—
Calcutta, 5 t. £21
Albumen—
B. Ayres, 5 c. £9
Alum—
Alexandria, 1 t. 5 c. £8
Alexandretta, 4 9 22
Havana, 5 1 q. 23
Cadiz, 1 5
Ibrail, 4 10 31
Cape Town, 2 18 20
Lisbon, 1 2 8
Ammonia—
Gibraltar, 12 c. £40
Ammonium Carbonate—
Lisbon, 10 c. £18
Rotterdam, 1 t. 14 c. 69
Bordeaux, 10 18
Marseilles, 7 2 q. 14
Havre, 4 7
St. Petersburg, 8 10 300
Ammonium Chloride—
Trieste, 1 t. £34
Volo, 10 c. 18
Genoa, 2 11 3 q. 93
Ammonium Sulphate—
Valencia, 447 t. 19 c. 1 q. £6,028
Montreal, 9 16 2 131
Rio de Janeiro, 19 3 15
Barcelona, 49 10 3 688
Santander, 2 28
Bordeaux, 10 144
Gd. Canary, 23 5 337
Las Palmas, 99 1 1,368
Genoa, 9 19 2 142
Arsenic—
St. Petersburg, 10 c. 2 q. £10
Asbestos—
Piræus, 1 cs.
Barium Chlorate—
Genoa, 5 c. £20
Bleaching Powder—
Boston, 956 cks.
Corfu. 10 brls.
Dunkirk, 18
Genoa, 30
Lisbon, 10
Newport News, 79 50 bxs.
Philadelphia, 130
Rio de Janeiro, 17 cs.
Rouen, 16
Woodstock, 500 kgs.
Alicante, 28
Baltimore, 49
Ferrol, 2
Madrid, 27
Malaga, 10
New York, 290
Quebec, 18
San Sebastian, 57
Boracic Acid—
Naples, 4 c. £7
Borax—
Rouen, 13 t. 10 c £146
Antwerp, 1 1 25
E. London, 1 2 25
Montreal, 3 5 72
Hamburg, 16 1 370
Alexandria, 4 6
Vera Cruz, 2 5 2 q. 51
Calcium Chloride—
Sydney, 9 t. 18 c. £23
Boston, 23 13 50
Caoutchouc—
New York, 2 cs.
Carbolic Acid—
Rouen, 2 t. 10 c £120
Bombay, 1 3 q. 16
Adelaide, 5 10
Santos, 1 3 9
Rotterdam, 5 10 272
Philadelphia 11 20
Alexandria, 4 2 16
Santander, 1 2 60
N. Orleans, 12 12 617
Caustic Potash—
Newport News, 1 t. 9 c. £46
Montreal, 10 13
Caustic Soda—
Alicante, 7 dms.
Bahia, 35
Baltimore, 550
Barbadoes, 10
Barcelona, 214
Bilbao, 33
Bordeaux, 150
Bremen, 5 brls.
Brisbane, 96
Calcutta, 173
Callao, 32
Hiogo, 200
Lisbon, 46
Manila, 100
Melbourne, 259 20 pkgs.
Milwaukee, 200
Newport News, 250 80 bxs.
New York, 150 50
Odessa, 128
Para, 30
Paraiba, 15
Penang, 200
Pernambuco, 25
Point Credit. 35
Puerto Cabello, 22
Rangoon, 14
Rotterdam, 210 8 cks.
Rouen, 48
St. John's, N'fd., 33
St. Petersburg, 25
Seville, 195 50
Singapore, 104
Susa. 100
Sydney, 162
Valparaiso, 303
Woodstock, 35
Antwerp, 62 3
Bombay, 50
Cadiz, 25 kgs.
Corunna, 20
Fiume, 150
Genoa, 34
Hamburg, 25
La Guayra, 40
Leghorn, 15
Malaga, 238
Messina, 15
Montreal, 100
Naples, 50
N. Orleans, 50
Oporto, 28
Santander, 15
Sourabaya, 40
Venice, 35
Chemicals *(otherwise undescribed)*
New York, 26 t. 19 c. 3 q. £793
Naples. 15 2 28
Mersyne, 8 3 15
Alexandria, 3 10 2 125
Philadelphia, 6 9 196
China Clay—
Boston, 932 t. 10 c.
Bombay, 20
B. Ayres, 20
Ferrol, 2 10
Genoa, 50
Montreal, 10
New York, 23 17
Rio de Janeiro, 6
Citric Acid—
Corunna, 2 c. £14
Citrochloric Acid—
Lisbon, 2 cs. £20
Coal Products—
Aniline
Melbourne, 3 kgs.
Aniline Colours
New York, 7 brls.
Aniline Oil
Genoa, 9 dms.
Aniline Salts
Syra, 4 cks.
Genoa. 10
New York, 55 cs.
Creosote Oil
Bordeaux, 20 dms.
Naphthol
New York 4 cks.
Pitch
Antwerp, 60 t. 5 c.
Ibrail, 30 brls.
Copperas—
Gd. Canary, 14 t. 8 c. 3 q. £27
Alexandria, 26 38
Syra, 29 4 1 50
Copper Sulphate—
Bilbao, 5 t. 2 c. 3 q. £77
Lisbon, 10 1 153
Oporto, 25 8 3 380
M. Video, 6 6 94
Syra, 9 2 7
Naples, 18 3 15
La Plata, 10 10
Messina, 7 1 101
Rotterdam, 10 1 1 145
Genoa, 140 10 3 2,168
Marseilles, 150 17 1,905
Bordeaux, 264 8 3,988
Copenhagen, 2 6 1 35
Sydney, 1 17
Antwerp, 9 18 3 142
Constantinople, 2 10 38
Stettin, 19 1 14
Rio de Janeiro, 6 7
Nantes, 19 16 3 300
Venice, 40 13 3 565
Rouen, 19 16 302
Dextrine—
Pernambuco, 3 bgs.
Disinfectants—
Calcutta, 4 cs. £4
Bombay, 2 t. 15 c. 16
Dried Blood—
Las Palmas, 2 t. 1 c. £20
Rouen, 35 277
Gd. Canary, 10 82
Farina—
Piræus, 20 bgs.
Guano—
Barbadoes, 25 t. £230
Iron Oxide—
New York, 10 cks. £49

Lime—
Sierra Leone, 4 t. 5 c. £8
Magnesia—
Malaga, 1 cs.
Paris, 75
Magnesium Chloride—
Rouen, 10 t. 8 c. £24
Magnesium Sulphate—
Mauritius, 100 kgs.
Pernambuco, 250 bgs.
Babia, 40 cks.
Rio de Janeiro, 20
Manure—
Valencia, 50 t. 9 c. 1 q. £150
Barcelona, 10 2 2 30
Gd. Canary, 14 85
Mineral White—
Vera Cruz, 45 cks.
Oxalic Acid—
Boston, 10 t. 4 c. 1 q. £285
Paint—
Caldera, 162 kgs.
Gd. Canary, 40
Havana, 70 dms.
Havre, 4 brls. 2 pkgs.
Manaos, 7 cks.
Mayaquez, 6
Mossamedes, 60 9
Cape Town, 12
Curacao, 45
Lisbon, 10
Manila, 60
Newcastle, 21
Opobo, 30
Rio de Janeiro, 50
S. John's, N'fd, 150 7
St. Thome, 72
Trieste, 40
Valparaiso, 96 10 5 cs.
Painters' Colours—
Amsterdam, 36 kgs. 6 dms.
Antwerp, 21
Bilbao, 13
B. Ayres, 5 cks. 123 cs.
Hamburg, 4
Havana, 4 tcs. 8 brls.
HongKong, 830 15
Loanda, 2
Manila, 30
Mauritius, 410
Nantes, 1
N. Orleans, 480
New York, 1 150
Para, 2
St. Thome, 4 dms.
Salonica, 4
Santos, 22 cks.
Valparaiso, 20 45 cs.
Arecibo, 4
Barcelona, 2
Bermuda, 17 1
Galatz, 100
Leghorn, 30
Odessa, 30
Pernambuco, 5
Santander, 20
Seville, 12
Vigo, 10 brls.
Paraffin Wax—
Smyrna, 15 bgs.
Boston, 50 cs.
Paris White—
Naples, 10 cks.
Phosphorus—
Mexico City, 17 c. 3 q. £112
Vera Cruz, 8 2 96
Havanaa, 10 cs. 130
Yokohama, 10 100
Plumbago—
Valparaiso, 10 cks.
Potassium Bichromate—
Antwerp, 5 t. 9 c. 2 q. £216
Rio de Janeiro, 15 38
Potassium Chlorate—
Pueblo, 10 c. £26
Rotterdam, 16 48
Bilbao, 1 t. 56
Guttejewsky, 7 10 440
Lisbon, 6 17
Syra, 5 14
New York, 22 10 1,355
Hamburg, 1 10 86
Philadelphia, 11 5 708
Hiogo, 15 854
St. Petersburg, 20 10 1,355
Boston, 7 10 446
Catania, 6 18
Kalmar, 1 56
Copenhagen, 5 276
Venice, 5 14
Montreal, 10 30
Antwerp, 7 80
E. London 10 30
B. Ayres, 1 3 66
Odessa, 11 30
Potassium Prussiate—
Lisbon, 2 c. £3
Montreal, 3 15
Vera Cruz, 10 3 q. 49
Pumice Stone—
Valparaiso, 3 cs.
Rosin Oil—
Hamburg, 53 brls.
Salt—
Accra, 5 t.
Algoa Bay, 26 16 c.
Amsterdam, 180
Antwerp, 375
Benin, 12 10
Boston, 326
B. Ayres, 64 14
Calcutta, 8,992
Cameroons, 66 14
Chicago, 50
E. London, 11 8
Ghent, 150
Iceland, 89
Lagos, 50
Melbourne, 50
Montreal, 874
Newport News, 750
Noqui, 22 4
Para, 18
Rangoon, 1,840
Rio de Janeiro, 4 50 cs.
Rotterdam, 68
Salt Pond, 25
Sierra Leone, 100
Archangel, 350
Boma, 8 18
Copenhagen, 1,200
Matadi, 20 10
Memel, 450
New York, 5 7
Orebak, 54
Quebec, 25
Sydney, 298
Salt Cake—
Antwerp, 250 t. £271
Cadiz, 2 3 c. 5
Sydney, 2 5
Baltimore, 20 2 26
Saltpetre—
Las Palmas, 2 t. £44
Rio de Janeiro, 4 11 c. 106
Parahyba, 1 10 35
Bahia, 5 19 3 q. 130
Sheep Dip—
Calcutta, 18 c. 19
M. Video, 10 t. 1 1 q. 214
N. Orleans, 17 17 2 494
Soap—
Accra, 550 bxs.
Amboina, 500
Antigua, 170
Attaboe, 92
Axim, 25
Barbadoes, 700 3 cs.
Bathurst, 175
Bayin, 50
Bombay, 260 56
Bonny, 250
Buguma, 112
Calcutta, 10 16 500 bdls.
Cameroons, 100 2
C. C. Castle, 377
Cape Town, 200
Copenhagen, 40
E. London, 550 22
Elmina, 100
Gibraltar, 275
Gr. Bassam, 100
Gr. Canary, 235
Hong Kong, 450
Lagos, 480
Macassar, 500
Malta, 8
Manaos, 20
Monrovia, 60
Nassau, 12
Natal, 50
N. Orleans, 50
New York, 1,725 2
Old Calabar, 1,070
Penang, 10
Pernambuco, 8 1
Piræus, 20
Pt. Natal, 170
St. John's, Nfld., 138
St. Lucia, 35
Savannah la Mar, 150
Shanghai, 5,738
Singapore, 2,560 16
Teneriffe, 264
Victoria, W.C.A., 41
Alexandria, 20 57
Algoa Bay, 50
Bangkok, 3
Bermuda, 50
Brussels, 600
Ceara, 5
Chama, 2
Constantinople, 26
Greytown, 225
Kingston, 70
Las Palmas, 524
Madeira, 20
Montreal, 201
Pt. Elizabeth, 114
Rotterdam, 430
Sierra Leone, 1
Sinoe, 6
Toronto, 750
Soda Alkali—
Geelong, 16 brls.
Genoa, 65
Melbourne, 74
Odessa, 50
Sydney, 94
Soda Ash—
Antwerp, 954 bgs.
Baltimore, 134 cks. 1,524 84 tcs.
Boston, 112 800 93
Brisbane, 68
B. Ayres, 250 brls.
Calcutta, 150 6
Callao, 10 95
Corfu, 50
E. London, 100 kgs.
Ghent, 80
Havana, 2
Melbourne, 784
Newport News, 740
New York, 111 2,388
Philadelphia, 374 1,000 63 tcs.
Puerto Cabello, 19 brls.
Rotterdam, 8 50
Savanilla, 19
Smyrna, 1,000 120
Amsterdam, 225
Barcelona, 20
Cartagena, Sp., 25
Chicago, 250
Coquimbo, 6
Genoa, 100
Hamburg, 150
Lisbon, 23
Oporto, 20
Rio de Janeiro, 50
Samarang, 9
Syra, 100
Varna, 100
Venice, 13 100
Vera Cruz, 61
Weston, 13
Soda Crystals—
Belleville, Ont., 20 brls.
Boston, 420
Guelph, 25 dms.
Montreal, 100 400 kgs 19 brls.
New York, 140
Philadelphia, 140 cks
Woodstock, 60
Sodium Biborate—
Antwerp, 20 cks.
Genoa, 82 cs.
Hamburg, 64 12 pkgs.
Naples, 20 8 brls.
Rotterdam, 5
Venice, 30
Sodium Bicarbonate—
Adelaide, 20 kgs. 8 cks 50 bgs.
Brisbane, 100
B. Ayres, 40 4
Copenhagen, 32 29
E. London, 20
Genoa, 90 19
Hamburg, 20 14
Havre, 80
Hiogo, 500
Hong Kong, 10
Kurrachee, 275
Leghorn, 20
Marseilles, 71
Melbourne, 434
Messina, 30
Montreal, 375 100
New York, 200
Rotterdam, 20
Rouen, 40 4 7 brls.
Salonica, 60
Saffi, 4
Singapore, 9
Sourabaya, 4
Sydney, 34
Toronto, 100
Trieste, 50
Valencia, 60
Alexandria, 20
Cadiz, 10
Halifax, 50
Lisbon, 40 3
Malaga, 25
Odessa, 250
Patras, 20
Seville, 15 20
Smyrna, 50
Sodium Bichromate—
Bilbao, 70 brls.
Sodium Chlorate—
Lisbon, 2 kgs.
N. Orleans, 1 ck.
Hamburg, 1 1
Rotterdam, 30
Sodium Hyposulphite—
Hiogo, 80 kgs.
Sodium Nitrate—
Seville, 25 bgs.
Sodium Prussiate—
Boston, 3 cks.
Sodium Silicate—
Adelaide, 20 cks.
Bilbao, 6
Calcutta, 72
Cartagena, Sp., 16
Havre, 20 brls.
Ibrail, 20
Malta, 22
Melbourne, 20 5 dms.
Montreal, 32
Naples, 10
Oporto, 5
Piræus, 2
Sydney, 20
Tarragona, 20
Tunis, 16
Valencia, 47
Yokohama, 7 6
Corunna, 17
Sodium Tartrate—
Montreal, 1 ck.
Stearine—
Pernambuco, 10 cks.
Sulphate of Lime—
Rio de Janeiro, 19 t. 3 c.
Sulphur—
Lisbon, 18 c.
Calcutta, 15
Antwerp, 10
Boston, 200 8
Montreal, 150 6
Sulphuric Acid—
Mollendo, 16 c. 2 q.
Superphosphate—
Gr. Canary, 22 t.
Nantes, 129 5 c. 1 q.
Tartaric Acid—
Corunna, 3 c.
Ultramarine—
Sydney, 16 brls.
Varnish—
Alexandria, 2 cs.
Barcelona, 1
Genoa, 6 cks.
Gijon, 3
Bahia, 1
Vermilion—
Calcutta, 2 cks.
White Lead—
Hamburg, 10 brls.
Whiting—
Ceara, 4 t. 18 c.
Shanghai, 12 cks.
Zinc Chloride—
Halifax, 2 t. 8 c. 3 q.
Bombay, 8 15

MANCHESTER

Week ending June 14th.

Alkali—
Rouen, 1 ck.
Ammonium Carbonate—
Rotterdam, 1 kg.
Aniline Oil—
Rotterdam, 2 dms.
Antwerp, 14 20 tins.
Bleaching Powder—
Rio de Janeiro, 10 cs.
Camphor—
Sierra Leone, 1 cs.
Caoutchouc—
Rotterdam, 5 cs.
Caustic Soda—
Rio de Janeiro, 4 dms.
Disinfectants—
Rio de Janeiro, 1 cs.

—
, 12 cks.
1 ck.
168 t.

HULL.

ending June 9th.

20 cks.

m Sulphate—
1,004 bgs.
500
, 1,914

ne—
, 135 cks.

Powder—
107 cks.
5

4 cks.

ac—
and, 1 pkge.

oda—
20 kgs.
65 dms.
g, 15
30

s *(otherwise undescribed)*
3 cks. 20 cs.
, 22 3
en, 200
48
10 251 5 pkgs
g, 10
4 100
6
67
4
, 26 90

oducts *(otherwise undescribed)*—
50 brls.

d Oil—
, 102 c.
en, 136
, 33
g, 100
655
, 1,010
74
434

(otherwise undescribed)
12 cks.
, 10 bls.
1 cs.
2
, 8 cks.
burg, 15 6

Oil—
13 c.
51
34
171
, 377
en, 24
36
, 184
g 100
373
, 122

250 t.

n, 1 ck.

Colours—
6 cks. 20 dms. 533 pks.
n, 9
24
, 60 188
ople, 30
en, 23 16 3 cs.
1
, 24
g, 85 5 1
6
4
18 12
g, 26
239
12 3
, 15 4
2
64
burg, 42
17 1

Pitch—
Antwerp, 288 t.
Odessa, 100 cks.

Slag—
Stettin, 180 t

Soap—
Copenhagen, 1 cs.

Tallow—
Stockholm, 5 cks.

Tar—
Bergen, 4 cks.
Copenhagen, 9
Gothenburg, 2
Odessa, 150
Rotterdam, 3
Stettin, 5 1 cs.

Varnish—
Antwerp, 1 cs. 1 cks. 2 bls.
Amsterdam, 1 3
Bordeaux, 1
Copenhagen, 1 3
Danzig, 4
Drontheim, 5
Gothenburg, 5 1
Harlingen, 1
Rotterdam, 2
St. Petersburg, 4

GLASGOW.

Week ending June 14th.

Ammonium Chloride—
Montreal, 1 t. 10 c. £36. 15s.

Ammonium Sulphate—
W Indies, 47 t. ½ c. £684
New York, 10 140

Bleaching Powder—
Calcutta, 105 t. £1,365
Philadelphia, 19 19¾ c. 170
Melbourne, 4 19¾ 42

Borax—
Melbourne, 3 t 12¾ c £76. 14s.
Quebec, 6 14½ 150

Caustic Soda—
New York, 10 t. 5¾ c. £92

Coal Products—
Alizarine Oil
Lisbon, £38. 18s.
Naphtha
Dieppe, 126 cks. £470
Pitch
Dieppe, 700 t. £937
Amsterdam, 250 350
Hamburg, 9 7 c. 55
New York, 63 13¾ 97
Italy, 1 4 39
Quebec, 78 19 119
Tar
Calcutta, £253
Boston, 24 t 10 c. 45
Quebec, 129
Dantzig, 506 brls. £202. 8s.

Dyestuffs—
Extracts
Montreal, 5 t. 14½ c. £160
Lisbon, 1 15 31
Logwood
Lisbon, 16 t. 7¼ c. £101
Brisbane, 3 6 39
Sumac Extract
Quebec, 1 t. 7¾ c. £24

Dyestuffs *(otherwise undescribed)*
Melbourne, 5½ c. £26. 10s

Guano—
Valencia, 272 t. 11 c. £2,320

Linseed Oil—
Straits, 225 glns. £24. 10s.
Quebec, 5 t. 3¾ c. 120

Manure—
W. Indies, 6 t. 10¼ c. £25

Ochre—
New York, 12 t. ¼ c. £188

Paint—
Straits, 11 t. 7½ c. £156
Japan, 4 12 72
Peru, 6 13½ 161
Gibraltar, 33
Adelaide, 60

Painters' Colours—
Calcutta, 24 t. 5 c. £342
Brisbane, 5 18 105

Paraffin Wax—
Hong Kong, 1 t. 6¼ c. £83
Japan, 108
Lisbon, 1 ½ 30
Barcelona, 3 71
Italy, 14 13¾ 390
Bordeaux, 1 8½ 58

Potash—
Rotterdam, 1 ck. £20

Potassium Bichromate—
Japan, 5 t. 6½ c. £199
Italy, 8 12¼ 368
Melbourne, 12 27

Potassium Prussiate—
New York, 9 t. ¾ c. £762

Potassium Sulphate—
W. Indies, 1 t. 7½ c. £12

Rosin Oil—
Philadelphia, 2 t 3½ c. £22. 18s.
Rotterdam, 10 brls 20
Melbourne, 3 t. 12 c. 22

Sodium Bichromate—
Lisbon, 14 c. £24
Italy, 31 t. 15¼ 1,046

Tallow—
Rotterdam, 303 t. 11 c. £840

Tin Crystals—
Lisbon, 4 c. £23

Varnish—
Brisbane, 1 t. 1 c. £45

White Lead—
Huelva, 1 t 9¾ c £22
Brisbane, 5 10 117

TYNE.

Week ending June 9th.

Alkali—
Hamburg, 6 t 1 c
Antwerp, 1 3
Christiania, 2 16
Rotterdam, 3 3
St. Petersburg, 74 9
Bergen, 3
Leghorn, 9 2
Savona, 30 11
Riga, 14 14
Kalmar, 29 17

Alum—
Wasa, 14 c.

Alum Cake—
Newfairwater, 7 t. 11 c.

Ammonium Chloride—
St. Petersburg 21 t. 1 c.

Antimony—
Rotterdam, 7 t.
Copenhagen, 10 c.
Montreal, 3
New York, 30

Arsenic—
Genoa, 3 t 14 c.

Barytes Carbonate—
Riga, 25 t. 13 c.
New York, 33 2

Blanc Fixe—
Montreal, 2 t. 2 c.

Bleaching Powder—
Hamburg, 130 t. 19 c.
Brake, 5 10
Antwerp, 62
Oporto, 52 19
Christiania, 21 9
Rotterdam, 86 11
St. Petersburg, 21 13
Odense, 1 4
Barcelona, 1 7
Copenhagen, 1 3
Bergen, 1
Drontheim, 10
Gothenburg, 10
Montreal, 93 9
Genoa, 1 14
Newfairwater, 44 7
Riga, 25 10
San Francisco, 7 10
New York, 100 19

Caustic Soda—
Hamburg, 1 t. 14 c.
Antwerp, 44 19
Barcelona, 27 8
Copenhagen, 1 3
Malmo, 2 18
Gothenburg, 4 18
Montreal, 31 1
Genoa, 14 8
Newfairwater, 20 6
Riga, 55 4
San Francisco, 87 1
New York, 79 15
Wasa, 29 3

Copperas—
Bergen, 3 t. 1 c.
Gothenburg, 4 18

Litharge—
Antwerp, 6 c.
Rotterdam, 1 t. 3
Montreal, 12 11
Riga, 12 14
New York, 15

Magnesia—
Hamburg, 8 c.
Antwerp, 10
Odense, 9
St. Petersburg, 1 t. 10
Montreal, 19
Genoa, 4

Manure—
Valencia, 256 t. 9 c.

Oxalic Acid—
New York, 5 t. 2 c.

Paint—
Copenhagen, 1 t. 9 c.
New York, 3

Phosphorus—
Barcelona, 1 t. 4 c.

Picric Acid—
New York, 6 c.

Pitch—
New York, 60 t.

Potassium Chlorate—
Wasa, 10 c.

Potassium Chloride—
St. Petersburg, 10 t.

Rosin Oil—
Antwerp, 2 t. 1 c.

Slag—
Rotterdam, 107 t.

Soda—
Oporto, 13 t. 13 c.
Christiania, 9 15
Aalborg 6 5
Holboek, 25 17
St. Petersburg, 3 5
Gothenburg, 8 3
Leghorn, 3 5
Montreal, 262 1
Genoa, 31 10
Kalmar, 24 19
Wasa, 7 8

Soda Ash—
Hamburg, 4 t. 19 c.
Rotterdam, 11
Horsens, 3 8
Gothenburg, 34
Bergen, 5 4

Sodium Hyposulphite—
Hamburg, 3 t. 8 c.
Montreal, 5

Sulphur—
Ronneby, 400 t.
Gothenburg, 43
Newfairwater, 30
Riga, 15

Tallow—
Drontheim, 4 c.

Tar—
Christiansand, 2 t.
Wasa, 2 10 c.

Turpentine—
Antwerp, ¼ c.

White Lead—
Hamburg, 1 t. 1 c
Oporto, 3 4
Copenhagen, 6 6
Montreal, 154 18
Riga, 9

GOOLE.

Week ending June 6th.

Chemicals *(otherwise undescribed)*
Boulogne, 1 cs.

Coal Products *(otherwise undes.)*—
Ghent, 1 ck.
Hamburg, 7 6 cs. 1 dm.

Dyestuffs *(otherwise undescribed)*
Hamburg, 42 cks.

Manure—
Boulogne, 42 bgs.
Hamburg, 498
Rotterdam, 100

Pitch—
Antwerp, 261 t.

GRIMSBY.

Week ending June 9th.

Chemicals *(otherwise undescribed)*
Antwerp, 6 cks.
Dieppe, 140 brls.
Hamburg, 3 21 cs.

Coal Products *(otherwise undes.)*—
Dieppe, 88 cks.
Malmo, 25

Dyestuffs *(otherwise undescribed)*
Dieppe, 4 cks. 2 pkgs.

Salt—
Antwerp, 200 t.

PRICES CURRENT.

WEDNESDAY, June 20th, 1894.

Prepared by Messrs. Higginbottom and Co., 116, Portland Street, Manchester.

The values stated are f.o.r. at maker's works, or at usual ports of shipment in U.K. The price in different localities may vary

	£	s.	d.
Acids:—			
Acetic, 25 % and 40 % .. .. per cwt.	6/6 & 10/6		
,, Glacial .. .. ,,	50/-		
Arsenic S.G., 2000° .. .. ,,	0	14	6
Fluoric .. .. per lb.	0	0	3¾
Muriatic (Tower Salts), 30° Tw. .. .. .. per bottle	0	0	10
,, (Cylinder), 30° Tw. .. .. ,,	0	3	0
Nitric 80° Tw. .. .. per lb.	0	0	1¾
Nitrous .. .. ,,	0	0	1¾
Oxalic .. .. nett	0	0	3¾
Phosphoric, 1750° .. .. ,,	0	1	0
Picric .. .. ,,	0	1	0
Sulphuric (fuming 50 %) .. .. per ton	15	10	0
,, (monohydrate) .. .. ,,	5	10	0
,, (Pyrites, 168°) .. .. ,,	3	0	0
,, ,, 150° .. .. ,,	1	5	0
,, (free from arsenic, 145°) .. .. .. ,,	1	6	0
Sulphurous (solution) S.G. 1025 .. .. .. ,,	3	0	0
Tannic (pure) .. .. per lb.	0	1	1
Tartaric .. .. ,,	0	0	11
Arsenic, white powdered .. .. nett per ton	14	5	0
Alum (loose lump) .. .. ,,	5	2	6
Alumina Sulphate (pure) .. .. ,,	5	0	0
Aluminoferric .. .. ,,	2	7	6
Aluminium .. .. per lb.	0	3	0
Ammonia, Anhydrous .. .. ,,	0	1	3
,, ·880=28° B. .. .. per lb.	0	0	3
,, =24° B. .. .. ,,	0	0	2¼
,, Carbonate .. .. nett	0	0	3¾
,, Muriate .. .. per ton	24	10	0
,, ,, (sal-ammoniac) 1st & 2nd .. per cwt.	39/- & 37/-		
,, Nitrate .. .. per ton	44	0	0
,, Phosphate .. .. per lb.	0	0	10½
,, Sulphate (grey) London .. .. .. per ton	14	0	0
,, ,, (grey) Hull .. .. ,,	13	17	6
Aniline Oil (pure) .. .. per lb.	0	0	5½
Aniline Salt ,, ... ,,	0	0	5¼
Antimony .. .. per ton	32	10	0
,, (tartar emetic) .. .. per lb.	0	0	9½
,, (golden sulphide) .. .. ,,	0	0	10
Barium Chloride .. .. per ton	6	10	0
,, Carbonate (native) .. .. ,,	3	10	0
,, Sulphate (native levigated) .. .. .. ,,	45/- to 75/-		
Bleaching Powder, 35 % .. .. nett	7	10	0
,, Liquor, 7 % .. .. ,,	3	10	0
Bisulphide of Carbon .. .. ,,	11	15	0
Chromium Acetate (crystal) .. .. per lb.	0	0	6
Calcium Chloride .. .. per ton	2	5	0
China Clay (at Runcorn) in bulk .. .. .. ,,	17/6 to 30/-		
Coal Tar Products and Dyes:—			
Alizarine (artificial) 20 % .. .. .. net per lb.	0	0	8
Magenta .. .. ,,	0	3	9
Anthracene, 30 % A, f.o.b. London .. per unit per cwt.	0	1	1
Benzol, 90 % nominal .. .. .. per gallon	0	1	0
,, 50/90 ,, ... ,,	0	1	3
Carbolic Acid (crystallised 40°) .. .. .. per lb.	0	0	6¼
,, (crude 60°) .. .. per gallon	0	1	9
Creosote (ordinary) .. .. ,,	0	0	1½
,, (filtered for Lucigen light) .. .. ,,	0	0	2½
Crude Naphtha 30 % @ 120° C. .. .. .. ,,	0	0	5¾
Grease Oils, 22° Tw. .. .. per ton	2	10	0
Pitch, f.o.b. Liverpool or Garston .. .. .. ,,	1	11	6
Solvent Naphtha, 90 % at 160° .. .. .. per gallon	0	1	3
Lucigen" and "Wells Oils .. .. ,,	0	0	2½
Copper .. .. per ton	38	5	0
,, Sulphate .. .. ,,	15	10	0
,, Oxide (copper scales) .. .. ,,	39	5	0
Glycerine (crude) .. .. ,,	15	0	0
,, (distilled S.G. 1250°) .. .. ,,	41	0	0
Iodine .. .. nett, per oz.	0	0	9
Iron Sulphate (copperas) .. .. per ton	1	4	0
,, Sulphide (antimony slag) .. .. ,,	2	0	0
Lead (sheet) for cash .. .. ,,	10	10	0
,, Litharge Flake (ex ship) .. .. ,,	13	0	0
,, Acetate (white ,,) .. .. ,,	26	0	0
,, ,, brown ,,) .. .. ,,	16	0	0
,, Carbonate (white lead) pure .. .. .. ,,	20	0	0
,, Nitrate .. .. ,,	19	10	0
Lime, Acetate (brown) .. .. per ton	5	17	6
,, ,, (grey) .. .. ,,	10	5	0
Magnesium (ribbon and wire) .. .. per oz.	0	2	3
,, Chloride (ex ship) .. .. per ton	2	10	0
,, Carbonate .. .. per cwt.	1	17	6
,, Hydrate .. .. per ton.	17	0	0
,, Sulphate (Epsom Salts) .. .. .. per ton	3	0	0
Manganese, Sulphate .. .. ,,	17	15	0
,, Borate .. .. per cwt.	2	12	6
,, Ore, 70 % .. .. per ton	4	5	0
Methylated Spirit, 61° O.P. .. .. per gallon	0	2	2
Naphtha (Wood), Solvent .. .. ,,	0	3	7
,, ,, Miscible, 60° O.P .. .. .. ,,	0	4	3
Oils:—			
Cotton-seed .. .. per ton	21	5	0
Linseed .. .. ,,	22	10	0
Petroleum, American .. .. per gallon	0	0	5¼
Stearine .. .. per ton	28	0	0
Phosphorus (yellow) .. .. per lb.	0	2	2
,, (red) .. .. ,,	0	2	9
Potassium (metal) .. .. per oz.	0	3	7
,, Bichromate .. .. nett	per lb.	0	0	4½
,, Carbonate, 90% (ex ship) .. .. .. per ton	16	15	0
,, Chlorate .. .. per lb.	0	0	7¼
,, Cyanide, 98% .. .. ,,	0	2	0
,, Hydrate (Caustic Potash) 80/85 % .. per ton	21	15	0
,, ,, (Caustic Potash) 75/80 % .. ,,	20	0	0
,, ,, (Caustic Potash) 70/75 % .. ,,	19	10	0
,, Nitrate (refined) .. .. per cwt.	1	2	6
,, Permanganate .. .. per cwt.	3	2	6
,, Prussiate Yellow .. .. per lb.	0	0	10½
,, Sulphate, 90 % (ex ship) .. .. .. per ton	9	15	0
,, Muriate, 80 % (do.) .. .. .. ,,	8	7	6
Silver (metal) .. .. per oz.	0	2	4¾
,, Nitrate .. .. ,,	0	2	10
Sodium (metal) .. .. per lb.	0	3	0
,, Carb. (refined Soda-ash) 48 % .. nett per ton (P.O.R.)	4	17	6
,, ,, (Caustic Soda-ash) 48 % .. ,, ,, (P.O.R.)	4	2	6
,, ,, (Carb. Soda-ash) 48% .. .. ,, ,, (P.O.R.)	4	0	0
,, ,, (Alkali) 58 % .. .. .. ,, ,, (P.O.R.)	3	15	0
,, ,, (Soda Crystals) .. .. .. ,, ,, (P.O.R.)	2	12	6
,, Acetate (ex-ship) .. .. ,,	14	15	0
,, Arseniate, 45 % .. .. ,,	11	0	0
,, Chlorate .. .. per lb.	0	0	8¼
,, Borate (Borax) .. .. net, per ton.	22	10	0
,, Bichromate .. .. ,, per lb.	0	0	3¾
,, Hydrate (77 % Caustic Soda) (f.o.b.) net pr. ton (10 ton lots)	10	15	0
,, ,, (74 % Caustic Soda) ,, ,, ,, (10 ton lots)	9	17	6
,, ,, (70 % Caustic Soda) ,, ,, ,, (10 ton lots)	8	17	6
,, ,, (60 % Caustic Soda) .. ,, ,, (10 ton lots)	7	17	6
,, ,, (60 % Caustic Soda, cream) (f.o.b.) ,, (10 ton lots)	7	15	0
,, Bicarbonate .. .. ,,	6	12	6
,, Hyposulphite .. .. ,,	5	10	0
,, Manganate, 30% .. .. ,,	16	0	0
,, Nitrate (95 %) ex-ship Liverpool .. .. per cwt.	0	9	6
,, Nitrite, 98 % .. .. per ton	29	10	0
,, Phosphate .. .. ,,	15	0	0
,, Silicate (glass) .. .. per ton	5	7	6
,, (liquid, 100° Tw.) .. .. ,,	4	5	0
,, Stannate, 40 % .. .. per cwt.	3	0	0
,, Sulphate (Salt-cake) .. .. per ton.	0	17	6
,, ,, (Glauber's Salts) .. .. ,,	1	5	0
,, Sulphide .. .. ,,	8	10	0
,, Sulphite .. .. ,,	5	12	6
Strontium Hydrate, 100% .. .. ,,	8	10	0
Sulphocyanide Ammonium, 95 % .. .. per lb.	0	0	7¾
,, Barium, 95 % .. .. ,,	0	0	5
,, Potassium .. .. ,,	0	0	7½
Sulphur (Flowers) .. .. per ton.	7	12	6
,, (Roll Brimstone) .. .. ,,	5	15	0
,, Brimstone: Best Quality .. .. .. ,,	3	17	6
Superphosphate of Lime (26%) .. .. ,,	2	7	6
Tallow .. .. ,,	25	0	0
Tin Crystals .. .. per lb.	0	0	6
English Ingots .. .. ,,	73	0	0
Zinc (Spelter) .. .. per ton	15	7	6
,, Chloride (solution, 96° Tw.) .. .. .. ,,	5	10	0

THE

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AND

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sements intended for insertion in the current week's issue ach the office by **Wednesday morning** at the latest.

THE PROPOSED FLASH-POINT INQUIRY.

"Lord, Lord, how the world is given to lying!"

FORTUNE and females are proverbially fickle, and it would now seem that politicians should also be included. Apparently, the Home Secretary has perceived what he laid himself open to, when he took refuge in the statement that there were not enough interested members in the House to form a Committee to inquire into the flash-point question, and petroleum laws in general. It was an ill-chosen weapon to fence with certainly, and seemingly his attention has been drawn to the fact, as he has now suddenly discovered that there *are* enough interested members to form a Committee, and the whole affair is being brought to a head with a rush. The motive for so doing is not hard to see, but the points at issue are too important to be scrambled through anyhow, even though it may suit the convenience of the "authorities." Moreover, if, to use the Home Secretary's own words, "the question is an extremely disputable one," surely nothing could be more unseemly on the part of the "authorities" than anything like an attempt to "rush" the matter. No! This time the whole matter ought to be gone into thoroughly, and for that purpose we want a Committee of *Inquiry* which, in one sense, shall in all verity be a Select Committee, but which, in another sense, shall in no wise be a "selected" Committee.

The proposed Committee will no doubt be "assisted" by such information as the "authorities" may have up their sleeve, in favour of leaving the flash-point where it is. Now, these "authorities" cannot claim to rank merely as *amici curiæ*, and the Home Secretary is avowedly of the opinion that the whole movement is a put-up affair in favour of the Scotch trade. It is such a simple matter to calculate how small and short-lived would be the benefit which would accrue to the Scotch trade if the flash-point were raised to 100°F., that we must refrain from digressing to discuss that point, and content ourselves with endeavouring to bring out how important it is that both commercial and scientific interests on the proposed committee should be equally balanced. Bearing in mind, therefore, the bias which is likely to be given to the Committee owing to the aforementioned facts, it is something to learn that Sir H. E. Roscoe is to be one of the Committee. He will have a very delicate task to perform. Fear or favour will assuredly bring failure in its wake, but we trust he will perform the task wisely and unflinchingly, and so wish him success. Much opposition is also to be expected from those interested in the American petroleum trade. After such strenuous and partially successful efforts to kill the Baku trade and recover the monopoly of petroleum, it will be anything but welcome news to learn that this country has at length determined to cease being used as a waste-tank for all the low-flash petroleum that the Americans, and even our own Government at home, will not condescend to use.

There will, therefore, be many who will be glad to lay hold of the statements made in Abel and Redwood report's of 1890, and in consequence cause the task of elucidating whole truths about the reliability of the present flash-point to be proportionately difficult. Now, it is well known that a half-truth is much worse to combat than the other thing, and it is on that account we here take the opportunity of recording a few facts which show that the "powers that be" are not infallible, and that the immortal Shakespeare's estimate of "man, proud man, dress'd in a little brief authority, most ignorant of what he's most assur'd," is not wholly fallacious.

In the first place, it will be as well to ignore the controversy which might be raised as to why 73°F., the exact equivalent of the old 100° open test, was adopted as the Government standard, when the old test was known to give misleading results. The point is now fifteen years old, and time works wonders. The question which the Committee have to investigate is one of the future, not of the past. It would, therefore, be unjustifiable to unnecessarily stir up dust which has long since settled, thereby merely obscuring the proceedings of the Committee; and hence we refrain from doing so. There will be quite enough raised as it is. So let's to the point.

We are told in the report already referred to that one of the objections to a high flash-point is, that the heat of burning is also high in proportion. Unfortunately, actual experiment proves this statement to be wrong. Only the other day it was shown (according to the report in our columns this week) that with an American oil flashing at 76° the temperature of the oil being burnt in a Young's duplex metal lamp was 90°F., while with a high-flash oil under similar circumstances the temperature was only 88°. This amounts, with oils having about 20° difference between their flash-points, to a balance of 2° in the heat of burning in *favour* of the high-flash oil. Moreover, Mr. Fox, the chemist to the Petroleum Association, of all people in the world, states that he finds Abel and Redwood are wrong on this point.

Again, the same report argues in favour of a low flash-point—to wit, 73° or lower—because an oil is safer when heated a long way (instead of a little way) above its flashing point. Why so? For this reason. A lamp is safer (so far as explosion is concerned) when the vapour is present in sufficient quantity to displace all the air, and so avoid the formation of an explosive mixture. Granted. But is it not also true that ere the safety point can be reached the period of greatest danger has to be gone through, namely, when the explosive mixture is being expelled—presumably through the heated burner—by the comparatively harmless vapour, pure and simple. And what about accidents? The report admits that a number of the fatalities which take place are due to the upsetting of the lamp or breaking of the reservoir. Would there be no danger when the pent-up inflammable vapour was thus suddenly let loose and diluted with air? By the same logic used in the argument adopted in proving the safety which attends the use of a low-flash oil, there must inevitably be great danger.

Further, it was stated only this year by an expert, that raising the flash-point would not lessen the danger in the case of a lamp breaking and upsetting. How does this agree with actual tests which have been made during the last week or so, in which the same American low-flash oil, previously referred to, and the same high-flash oil, were in turn heated to 88°F. in a metal cup, and a lighted match thrown into each? The American oil ignited at once. The other oil not only did not ignite, but extinguished the match. So much for the comparison between the statements of outsiders and the "authorities."

But there are yet more conflicting incidents to be recorded. The Government itself is actually advised to act in direct opposition to their own recommendations. The War Office is told to insist on having an oil which flashes at 105°F. Abel's test, and the department has refused an oil for a contract which was only 1° or 2° lower. This has been explained away by the statement that such oil is intended for India. As a matter of fact, it is known to be used in the camp at Aldershot, while the actual legal minimum flash-point for oils in India is 73°. This is the same as in this country, save that the oil has to be previously kept at a low temperature for a certain time, thereby favourably influencing its vapour tension, a point which cannot be gone into here. To take another instance, it is stated in "Thorpe's Dictionary of Applied Chemistry" that a flash-point of 82° to 83° F. Abel's test is insisted upon at Baku for all oil intended for shipment. If carriers of oil in specially-built tank steamers insist for safety's sake on a flash-point of 82°, why is 73° considered as an indisputably safe flash-point for the oil used by hundreds of poor and ignorant people in this country every night?

As the Committee will deal with the whole of the petroleum Acts, it may be mentioned that the remarks on the tendency of legislation in the United States, to be found in the Dictionary just referred to, are misleading, and those who claim to be *au fait* with the subject are either anything but up to date, or do not care to give prominence to the actual feeling in the States upon the flash-point question. But we digress.

We now have to look at the matter from another aspect. Is the oil or the lamp the right thing to alter, to prevent accidents? A few moments' reflection will lead any capable mind to rightly conclude that the oil should be made safe, as it is the actual source of danger. But what say those who are assumed to be able to speak with authority?

In dealing with this point, we shall not go even such a short time back as to 1890, but we shall take the opinion publicly expressed less than five months since, by one of the greatest living authorities on petroleum, Mr. Redwood. He then said: "A movement in favour of an oil with a high flash-point is delusive." Again, "To secure immunity from accidents we must do away with the common, cheap, and unsafe lamp. . . . It is in this direction attention should be turned." These are positive statements. But let it be remembered that they express the opinion of one man only, and the issue at stake is of national importance. Let us see what are the opinions of four other men who may justly claim to speak authoritatively, since the four includes presidents of the Chemical Society and the Society of Chemical Industry. This quaternary opinion may be briefly and fairly expressed in the following, which embraces the words actually uttered. *A safety lamp attacks the problem at the wrong* end. No lamp is safe with dangerous oil, and *every* lamp is safe with a safe *oil*. (The italics are ours.) The question is not one of the safety of oil when burning in the best lamps, but when burning in the lowest class of lamp. Lastly, any substance which gives off inflammable vapour at ordinary summer heat is dangerous. These statements are also decidedly positive, and, we venture to add, incontrovertible. Chapter and verse could easily be given. Look at the matter again from a common sense point of view. Suppose a man argued in the case of accidents resulting from playing with loaded firearms, that the danger lay not in the explosive charge in the weapon, but in firearms being faultily and crudely constructed so that

off too easily, and therefore deduced that a properly made could, when loaded, be played with, with impunity. Why d be dubbed an ass. Yet there is just about as much neglecting to render burning oils safe and perfecting os. For such a case there is a fitting couplet which ly outward show let's not be cheated," &c.; we will ir readers, however, to complete it. If not familiar it for looking up. Anyone endowed with an average of common sense, could only arrive at such a short- opinion, through crass ignorance or fatuous self-com- y. We are sure it cannot in this case be due to the eason, and so perforce must accept the latter.

ie foregoing we think we may fairly claim to have hat even Government advisers are capable of making s occasionally, while, in this instance, they furthermore own actions contradict themselves. The justice of ing a genuine *inquiry* is therefore established; and we that we hope the inquiry which is pending will be ed with circumspection, thorough impartiality, and and be one in which the quest is the whole truth ttainment of which personal incriminations will be oblivion.

THE ANALYSIS OF VARNISHES.

course of a paper contributed to the Journal of the American nical Society, Mr. P. C. McIlhiney continues his description alysis of fats, rosins, and varnishes (*C.T.J.* 365, p. 320), and e following method for the estimation of turpentine in . He contends that the requirements of a satisfactory process nining turpentine are :

at the volatile material shall be separated under conditions mit of its being actually weighed or measured, and then sub- further treatment. (2) That the non-volatile portion shall be to as little heat as possible, both to avoid any destructive dis- and to leave it unaltered for further examination. (3) The hould require no unusual apparatus. None of the processes previously describes fulfil the above conditions It is well at on distilling together two immiscible liquids, such as car- lphide and water, the boiling-point of the mixture is lower of the more volatile liquid. Carbon disulphide boils at 49°, distilled with water the boiling-point of the mixture is 43°. tilling together 100 cc. of water and five cc. of turpentine it d that the first ninety-five cc. of distillate contained all the e, which separated very well from the water. Experiment hat ninety cc of water either dissolve or hold in suspension tly about 0·3000 gram of turpentine On these principles the process was devised :—

ation of Turpentine.—Twenty-five grams of varnish are into a flask of 400 cc. capacity, in which has been placed a granulated tin, or its equivalent, to prevent bumping, and n cc. of water. The flask is in this way prevented from greasy, which would cause violent bumping. The contents lask are now submitted to distillation, the distillate being a tapped separator. When ninety or ninety-five cc of water e over, the distillation is stopped and the turpentine and water o separate. If the contents of the flask still retain any odour tine more water should be added and the distillation resumed tling for a sufficient length of time, the water is carefully f and the turpentine poured into a tared flask and weighed. A n is made for the amount of turpentine retained by the water, g to 0·300 gram for ninety cc. of water. In some experi- lt was added to the water to raise its boiling-point, but no advantage was gained except when the non-volatile residue ier than water; in this case the salt prevented the residue from o the bottom and causing bumping by greasing the flask. If ed to examine the residue, the remaining water is poured off nd alcohol added. On distilling off the alcohol, and if neces- oving the last of it by the addition of a little ether, which is orated off, the residue is obtained pure.

llowing results were obtained by this process :—

Varnish.	Per cent. found.	Per cent. present.
B	41·2	41·4
C	57·1	56 9
D	56·3	56·8

The sample D was made by dissolving common rosin in turpentine, and it was therefore more difficult to remove the last trace of turpentine from the non-volatile residue than it ever is in an oil varnish, but even in this case the result is fairly accurate.

The method requires no unusual apparatus, and can be carried out in about half an hour. The residue is not heated above the boiling-point of water, and the turpentine is actually weighed and may be itself analysed.

For the determination of benzine in turpentine, the method of Burton gives the best results. It depends upon the conversion of turpentine into acids soluble in water by the action of nitric acid, while benzine remains unaffected and is separated and measured or weighed.

The Non-Volatile Portion.—The analysis of the residue consisting of linseed-oil and rosin, both more or less altered by heat, presents an extremely difficult problem in proximate analysis, and one which yet remains unsolved.

TIPS FOR TRADERS.

CANDLE AND MATCH making are among the more important industries carried on in the Argentine Republic, tallow being largely produced.

AGRICULTURAL MACHINERY is wanted in Russia, and the Government have made overtures to the American makers of such machinery to send out machines for a public trial at the expense of the Ministry. These trials of American machines—especially threshing machines—will take place in the province of Orel. Why not British machinery, too?

SUGAR MANUFACTORIES, according to the report for the season 1892-3, number 466 in the German Empire. This is an increase of five upon the previous season. Over 400 work up beets, of which 192,800,000 cwts were used The majority of the works in general, and 314 of the beet sugar extraction works, are in Prussia.

MANGANESE mining in Cuba is being rapidly developed. The European capitalists working the rich deposits in the Caucasus claim to be able to deliver manganese at Baltimore for $9 a ton. Railway and mining machinery is being laid down about Santiago, however, and the Cubans feel sure of their ability to undersell the Europeans in the American markets. This cheapening of manganese will render many Pennsylvanian iron mines available which now cannot be worked at a profit.

PHOSPHATE mining in Canada is not very remunerative now owing to the lowness of prices. In 1891-2 only 17,234 tons were worked, against 25,257 tons in the previous year

ASBESTOS is also being exported in smaller quantities, and prices are down. In 1891, about 10,000 tons were produced, and the article fetched $250 a ton during 1890.

TARIFF CHANGES.

There are from time to time many alterations in the Customs' regulations abroad, which it is as well for those trading in chemicals, oils, paints, and raw materials to be acquainted with. The following are some of the most recent changes of interest to the foregoing :—

LEAD AND ZINC imported into Russia must be accompanied by certificates of origin to benefit by the concessions of the new Conventional Tariff.

SALT, OLIVE AND PALM OIL are subject to a surtax when imported into Germany from Spain or Spanish possessions.

SOAP and Combustible materials are subject to excise, octroi, and other internal duties on entering Germany and Roumania territories, according to the interpretation put upon the 12th article of the Roumanian-German Commercial Treaty by the Roumanian Government.

OIL-CAKE imported into Venezuela is now classed in the Second Tariff, and is subject to a duty of 2 cents. per kilogram.

THE BRITISH ASSOCIATION.—At a meeting of the leading citizens of Toronto, held on Friday last week, it was unanimously decided to ask the Association to hold a meeting in Toronto in 1897.

Legal Intelligence.

HIGH COURT OF JUSTICE.

QUEEN'S BENCH DIVISION.

(Before the Attorney-General.)

WEBB *v.* LEVINSTEIN.

This case arose out of the opposition of T. G. Webb to the application of I. Levinstein for letters patent in connection with the concentration of vitriol and other liquids.

On the 26th of October, 1892, Ivan Levinstein applied for a patent for an invention, entitled "Improvements in the method of and apparatus for concentrating sulphuric acid and other liquids." According to this invention, the acid or other liquid to be concentrated passed down a certain series of similar open-topped glass vessels, each vessel having a delivery spout or lip projecting over the top of the next lowest vessel in the series. The top of each vessel was shaped in a peculiar way, in order to facilitate its removal when desired past the delivery spout or lip of the adjacent vessel. When sulphuric acid was the liquid treated, it passed from the lower end of the series of concentrating vessels into a receiver, where it was cooled, and where it served to absorb the heavy fumes given off from the concentrating vessels.

The application was opposed by Thomas George Webb on the grounds (1) that the invention had been patented on his application of prior date (No. 2,343 of 1891), and (2) that the invention had been obtained from him.

During the proceedings before the Comptroller the Applicant proposed to cancel five of the original claims of his Specification, and to limit the scope of two of the remaining five claims. The remaining claims as amended were improvements in details upon the type of apparatus claimed in the Opponent's specification. In themselves the Comptroller held that they were not included within the Opponent's claims, and therefore as regards the first of the above grounds of opposition, the Applicant was entitled to a patent. In view, however, of all the circumstances of the case, the Comptroller required that the Applicant's specifiation should contain a statement which would clearly inform the public of the existence of the Opponent's specification. With regard to the second ground of opposition, the evidence was very contradictory, and the Comptroller decided that the Opponent had not made out his case. He therefore decided to seal a patent.

The Opponent appealed, and the case was heard by the Attorney-General.

The Attorney-General (Sir Charles Russell), in giving his judgment, said: Two questions arise in this case (1) Whether the alleged invention of Levinstein has been patented in the prior patent of the opponent Webb (No. 2,343 of 1891), and (2) whether such alleged invention has been obtained from Webb. In view of the allegations made in the declarations put forward on the part of Webb, and of the fact that Levinstein and Webb had joined in August, 1892, in a joint application for certain alleged improvements in the method of concentrating sulphuric acid, I thought it right to afford a fuller opportunity to Webb than he had had before the Comptroller (when he appeared in person) of putting forward his case.

After fully considering the matter I have come to the conclusion that the decision of the Comptroller on both the questions raised is right. The alleged invention of Levinstein is clearly only an improvement on and subsidiary to Webb's patent, of which the essential features are (1) a series of vessels on descending steps, with (2) tubes to take the overflow from each higher vessel, and carry it to the bottom of each succeeding lower vessel. I therefore think that it is just to Webb, and in the public interest, that there shall be a reference to Webb's prior patent in that of Levinstein, if the latter is to be sealed.

But the question remains: Is Levinstein's alleged invention covered by that of Webb? I have already described generally the character of the latter; and, assuming that of Levinstein's to be altered as agreed to before the Comptroller, I am of opinion that it is not satisfactorily established that it is covered by that of Webb. I think some of the claims are open to criticism for generality, but I cannot at this stage say that Levinstein is to be debarred from such advantage as a patent may give him, and I do not think that Webb will be prejudiced in his legitimate rights by Levinstein's patent being sealed.

As to the second question,—whether Levinstein got his invention from Webb. The controversy mainly turned upon the flattened upper edge of the vessels. This is a question of fact; and, having carefully weighed the evidence, I come to the conclusion that it is not made out to my satisfaction that that invention (for what it may be worth) was obtained by Levinstein from Webb. The result, therefore, is that the Comptroller's decision will be affirmed, that Levinstein's patent will be sealed as passed by the Comptroller, and each of the parties to this appeal will bear his own costs.

Our Book Shelf.

The Principles and Practice of Agricultural Analysis. By Havey W. Wiley. Vol. I., parts 1-4. Easton, Pa.: The Chemical Publishing Co. 1894. 25 cents. per part.

In America they are quite ahead of us in the matter of agricultural education, and this fact is emphasised by the first few parts of this work, which promises to be a most excellent manual of agricultural analysis It is beautifully got up, illustrated with numerous plates and cuts, and printed in the American style of numbered paragraphs with copious black letter side headings. The new system of nomenclature and spelling is adopted.

The first part consists of an introduction, followed by an account of the elements occurring in the earth's crust and soils Rocks and their decay are next dealt with, a number of microscopical sections of rocks being represented. Part II. gives details of the various methods which have been proposed by different authorities for the sampling of soils, and also the treatment of the soil in the laboratory. The third part treats of the physical properties of soil, including its relations to heat and determination of specific heat, cohesion, absorptive powers, porosity and power of holding moisture, permeability by gases, and lysimetry. Part IV. begins to deal with the mechanical analysis of soils by flocculation and silt cylinder methods.—Other parts to follow.

Organic Colouring Matters. By G. Schultz and P. Julius. Translated, edited, and enlarged by A. G. Green. 205 pp, including Index. London: Macmillan and Co. 1894. 21s.

The want of a work giving a systematic survey of the coal-tar colours, such as are to be found in the German work of Schultz and Julius, has long been felt, and particularly so, as hitherto there has been but little done towards the classification of the numerous colours which are now so extensively manufactured, often by very complicated processes.

The translator and editor has wisely prefaced the translation of the German work with an account of the preparation and properties of the raw, primary, and intermediary products used in the manufacture of the colours. In describing their preparation only practical methods are given, laboratory methods being ignored; while at the same time the processes described are those actually now in use, the older methods which have been abandoned being passed over in silence.

The translation of Schultz and Julius' work follows next, the text of their last edition having been supplemented by the addition of about fifty new colours which have been brought out since its publication. This, the most pretentious portion of the work, consists of a detailed description of 454 colours. Some idea of the value of this compilation can be gathered from the following enumeration of the items of information given about each colour, which comprises its commercial and scientific names, empirical and constitutional formulæ method of preparation, year of discovery, discoverer and patent references, and lastly, behaviour with reagents, dyeing properties and methods of employment. These particulars are arranged in a neat and convenient tabular form. At the end there is a well-arranged table for the systematic qualitative analysis of the artificial colouring matters.

As a whole, the work must be strongly recommended to all interested in, or connected with, coal-tar colours, as the most practical, and, therefore one of the most valuable, contributions to the literature of organic chemistry extant.

Nature's Hygiene By C. T. Kingzett. 502 pp., including Index. 4th Edition. London: Baillière, Tindall, and Cox. 1894.

The fact of this unique work having reached its fourth edition is a pleasing indication that the efforts which have been made to educate the public in sanitary matters have not been altogether made in vain. This work as it now stands has developed considerably. The first edition was virtually a collection of interesting essays on hygiene, but the present edition of the work fully justifies its sub-title of a systematic manual of natural hygiene. Apart from the portions dealing with the chemistry of eucalyptus oils and turpentines, the book is quite within the grasp of any fairly well educated person, and in view of the daily increasing importance of sanitary reforms, is entitled to a place in every library as a standard work of reference on hygienic questions.

To the latest edition several additions have been made. In the chapter on Water the references to filters have been amplified, and several minor improvements are observable. The principal additions, however, are to be found in three chapters on the action of disinfectants on bacteria, alimentation and foods, and the aërial oxidation of turpentine respectively. The two former add materially to the general interest of the work and its value as an educator and referee. The last chapter of the three is equally interesting, but is of a more technical and scientific nature than the two first mentioned. The text is exceptionally free from typographical errors, and well printed throughout.

THIRTIETH ANNUAL REPORT OF THE CHIEF INSPECTOR OF ALI WORKS, being his proceedings during the year 1893.

report maintains its character of completeness, and shows that spectors of the Department have been unusually active, not s as a matter of choice, but because the new Act has brought a umber of extra works under inspection. The first pages are ting in giving the seperate processes of manufacture which now nder inspection, and the average amount of escape of acid gases h district. From these pages we learn that four prosecutions onducted under the Act, and costs were recovered in each case. lt decomposed in the Leblanc and Ammonia Soda processes an increase in ammonia soda works, and a decrease in Leblanc es for the year 1893 as contrasted with 1892, but it is difficult to ether this has been due to the coal strike or to extraneous ces. There is no doubt the country will be well satisfied that so new works have been put under inspection, but it is still a matter et that a more general classification of the works cannot be d, so that all those processes of manufacture from which certain s gases are discharged could be brought under its provisions, gh each process is not named. This is a blot in the Act which e at some future time will be remedied.

mention of Salt Works seems to have been made in the Chief tor's Report. It is within our knowledge that a vast amount age is done in the neighbourhood of these works by gases which ieve do not come under the cognisance of the Inspectors. We en dense fumes coming from salt pan chimneys during and he time that the scale has been "dodged" off the pans, and s no doubt that at these times the amount of hydrochloric acid g must be very great. The damage to the vegetation in the ourhood is only too apparent to the eye, and we believe these require much more stringent looking after. A great portion of spector's time seems to have been devoted to the new works brought under inspection, and Tar Stills have had their fair but such works as venetian red works, zinc works, and barium seem to require a considerable amount of attention. The of the Inspectors and Sub-Inspectors are very interesting read- d from them we learn in connection with the Chance process of r recovery, that of the total sulphur entering the kilns, from 20% is lost. It may be true that the neighbourhood has gained hat in the suppression of the odorous sulphuretted hydrogen, but question how much it has gained by the introduction into the here of so large a quantity of sulphurous acid, for we find that tons of pure sulphur and about a thousand tons of oil of vitriol ade during the year by this process. There seems also to be a hance of nuisance arising from leakages in the apparatus. As to thod of working the Chance process, all of the works, we are ill dispense with the use of meters, and none of them discharge the so-called inert gases through oxide purifiers, which, we , was at one time the main point in the Chance patents. The of the gases leaving the carbonators are taken either to the gas or direct to the Claus kilns. It seems strange that no means been discovered for obviating or diminishing the great loss of which takes place in this process, and we believe that a calcu- of the total sulphurous acid escaping from a works before and e introduction of the sulphur recovery process would not be able from a sanitary point of view.

of the works seem to be in a very good state, judging from the , and there is no doubt that the constant attention of the tor has a very great deal to do with keeping plant in a proper repair.

report upon works in Scotland shows a diminution of salt posed, but the amount of bleaching powder made remains prac- the same, while the amount of pyrites burned shows an increase of two thousand tons.

ng the report as a whole, the advantages arising from inspection no mean order, and we believe there is scarcely any other ment department which has been of more use to the community is has been.

SALFORD PROSECUTION.—The hearing of the case brought Mersey and Irwell Joint Committee against the Salford Corpora- the pollution of River Irwell was to have been heard at the Borough Police Court yesterday. We learn, however, as we ress, that the hearing nas been postponed.

FOOD ADULTERATION COMMITTEE OF INQUIRY.—This ttee has been reconstructed by Mr. Ellis. Mr. Gardner having d to be chosen chairman, and strong representations having ade from the traders' associations in Manchester and elsewhere e Local Government Board and the grocers and provision mer- should be represented, Mr. Ellis has now added Sir Walter and Mr. Maclure to the Committee. Mr. Pinkerton has been ted for Sir Henry Roscoe, who was unable to serve.

Parliamentary Jo

THE PROPOSED FLASH-POINT INQUIRY

IN the House of Commons, on Monday last, the Home Secretary said it was proposed to of a Select Committee on the Petroleum Acts in t week.

THE ATMOSPHERE OF THE UNDERGRO

In the House of Commons, on Friday, 22nd in President of the Board of Trade whether hi drawn to certain articles and correspondence in as to the state of the atmosphere in the Undergr means of purifying it; and whether he would t the matter effectually.

Mr. Bryce: I have myself had such frequent of the state of the atmosphere in certain parts Railway that no newspaper articles could make than I do the inconvenience from which the pub Parliament has not entrusted the Board of Trade would enable them to deal effectually with the hon. friend complains.

Mr. Weir asked whether the right hon. gentl the report which was furnished to him by the Company a few days ago was of an extremely w character—so much so that he should be con attention of the right hon. gentleman to the matt

Mr. Bryce said that that did not affect the an namely, that the Board of Trade did not possess effectually in the matter.

Sir E. Ashmead-Bartlett: Are there no mea railway company who violate the law in this way

Mr. Bryce: I have already told the House tha has no power to deal with the matter.

EXPORTS OF ALKALI AND

THE following figures, which are taken from t colonial statistics of the United Kingdom, value of alkali and bleaching materials shipped t countries during the month of May, 1894, as same month of 1893:—

ALKALI.

Port.	1893.	1894.
	Cwts.	Cwts.
Russia	44,208	15,460
Sweden and Norway	11,483	11,253
Germany	11,426	12,234
Holland	8,397	6,882
France	4,149	3,838
Spain and Canaries	20,759	28,206
Italy	14,284	21,442
United States	324,015	242,823
Australasia	10,060	29,930
British North America	29,519	13,279
Other countries	73,153	75,715
Total	551,453	461,062

BLEACHING POWDER, ETC.

Port.	1893.	1894.
	Cwts.	Cwts.
United States	72,302	63,468
Other countries	73,587	56,194
Total	145,889	119,662

PROSECUTION FOR RIVER POLLUTION.—A Bury Police Court, on Thursday, last week, proce the instigation of the Mersey and Irwell Joint Edward Barlow of Whitefield, for polluting a t Irwell. The Joint Committee were represented by Preston, and Mr. Smith represented the defendant tained that no effluent was passed away from his trates however, considered the offence proved, and £40. and £10. costs, and made an order to cease months.

WHERE LEGISLATION FAILS.

WE have frequently referred in these columns to the uselessness of placing restrictions on manufacturers in different industries, unless steps are also taken to rouse employees out of their apathetic indifference to a sense of their own responsibilities when engaged in dangerous employments. A striking commentary on the recent agitation in regard to the protection of persons engaged in unhealthy trades is furnished by a case which was heard by the Wolverhampton stipendiary recently. Two young women were charged, at the instance of the local inspector of factories, with neglecting to wear respirators when brushing in an enamel shop.—Mr. Hoare, the inspector referred to, stated that the two defendants were employed at the works of Messrs. Orme, Evans and Co., in the department where the enamelling of iron plates was carried on. On May 30, he went into the enamelling room, where he found the two defendants engaged in the process of brushing enamelled plates, and neither of them had got a respirator over her mouth. He spoke to them about it, but they could give no reason why they were not wearing respirators.—Mr. Henry B. Ball, a member of the firm of Messrs. Orme, Evans and Co, said his firm had been supplied with copies of the special rules, and these were hung in the workshops. They supplied the women with respirators, and had warned them that they were to wear them when at work. Witness produced one of the respirators, which he said, was composed of fine cambric, which fitted over the nose and mouth.—Mr Hoare remarked that they were the most serviceable to prevent those engaged in the white lead trade inhaling the poisonous dust. Mr. Hoare further stated that he had taken these proceedings as a warning, for the neglect of wearing the respirators had caused more than on case of lead poisoning. The last woman who died from lead poisoning was employed at Messrs. Orme, Evans and Co.'s works, but she had only been there a short time, and had carried it on from one works to another for some time. The stipendiary said that, if the fact that a woman had died from not taking the precaution was not sufficient to warn the defendants, nothing that he could say was sufficient. If they did not value their own lives he could not make them, and if it was not worth taking care of he did not think he could persuade them that it was. The defendants were each fined 2s. 6d. and 8s. cost.

THE ENGLISH AND GERMAN CHEMICAL INDUSTRIES.

[SPECIALLY CONTRIBUTED.]

NO doubt most of the readers of this *Journal* will remember the report on Technical Education presented in July, 1891, to the Manchester Whitworth Institute by the deputation which was appointed by the Council of the Manchester Technical School to visit the technical schools and institutions in England and on the Continent. That report was remarkable for the statements made therein respecting the lack of efficient technical instructors in certain of our industries. It added:—"The forethought of Continental Governments in this respect (viz, the supply of properly qualified teachers), may be compared, in several very interesting and striking directions, with our own want of prevision. For instance, when this Council has required the services of a competent instructor for the chemical, dyeing and calico-printing classes, it has been found indispensable to engage one who has been trained in a Foreign Technological Institution for that important section of its work; and it is well known that many of our leading firms experience almost insuperable difficulty in finding, amongst our own countrymen, that combination of scientific with practical knowledge, by which alone they can hope to compete with their Continental rivals."

This is surely very severe condemnation of our want of system in training competent teachers and assistants for the chemical trade of this country. Indeed, it is partly due to this negligence that Germany has succeeded in building up a very extensive trade in chemicals and chemical compounds of all descriptions.

If we take the export trade of this country in alkali, bleaching materials or preparations, chemical manure, medicinal preparations, &c., we shall find that it has not made that progress which we might have expected under proper conditions. The appended table shows the values of our exports in the years named:—

	1888.	1889.	1890.	1891.	1892.	1893.
	£.	£.	£.	£.	£.	£.
Alkali.....	1,638,770 ..	1,573,922 ..	2,089,295 ..	2,335,112..	2,119,791 ..	1,858,157
Bleaching Materials or Preparations	615,381 ..	563,313 .	506,076 ..	522,415..	598,649 ..	551,107
Manure (Chemical)	1,849,035 ..	2,050,170 ..	2,070,246 ..	2,111,350..	2,137,811 ..	2,312,067

The figures relating to chemical manure indicate a small expansion; but those dealing with the export of alkali and bleaching materials indicate a contraction of trade. There was a small spurt in the 1890-92, but last year's trade was only fractionally better than t 1888, as regards alkali.

On the other hand, if we refer to statistics dealing with Germ exports, we find that she has increased her shipments to this coun the following goods, comparing 1889 with 1891, the latest ye which figures are available:—

		Metric Centners.*		
Caustic soda	from	228	to	3,258
Alum	,,	26,987	to	33,137
Soda calcined	,,	3 373	to	21,464
,, crude	,,	621	to	10,947
Aniline and coal-tar	,,	13,867	to	18,194
Saltpetre	,,	40.379	to	48,087

* Metric Centner: About 94 lbs. avoirdupois.

It is significant that our exports to Germany have decr in the case of bleaching powder from 34,555 centners to 28,451 centners; from 278,396 to 19 metric centners in the case of sulphate of ammonia; 34,001 to 12,264 metric centners for catechu; from 27,706 to 1 metric centners for cinchona bark; from 22,678 to 14,100 n centners for carbolic acid. The list could be further extended it is sufficient to show that in many lines of chemical industry we been losing ground with Germany; while that country has gaine trade. The comparisons quoted above are 1889 with 1891.

In some lines Germany has an absolute monopoly, as, for inst in manufacture of kieserite, which is made exclusively in that co The chemical trade of Germany in many articles is sufficiently str disregard the Customs barriers raised by other countries in the sha Protective tariffs. When a foreign country imposes duties on a of her chemical industry, these do not lose their sphere of trade foreign country simply pays the duties because it cannot do wi German chemicals.

It would be very interesting to inquire how it is that German been able to occupy this strong position? The answer is partly found in the superior system of technical training, as applied t industry, pursued in Germany, and partly to some natural advan The fact that her system of training *is* superior to our own mu admitted when we have to go to a foreign country for a competen son to teach the art of dyeing and calico printing to our own tives. Up to the present the cost of production, so far as lab concerned, has been rather favourable to German manufacturers England, according to Mr. Charles Booth (*C. T. J.*, 341, p. 351), cent. of the persons engaged in our chemical industry receive 20s. per week; 25 per cent. earn from 20s., but under 20 per cent. receive from 25s., but less than 30s.; 25 per earn from 30s., but under 35s.; 15 per cent. from 35s., and less 45s.; while the remaining 10 per cent. receive 45s. and upwards. America we know that most of the employés engaged in m chemical preparations (compounded) receive from 36s. to 40s. a while those engaged in the manufacture of dyestuffs earn from 3 £3. and even more (*C. T. J.* 363, p. 286.) In Germany it is undou less, as the cost of living is much cheaper than in England United States, although it is known that the tendency of late ye been to increase the cost of living in Germany—more especially principal towns.

Although Germany has been extending her foreign trade respect, yet it does not follow that her manufacturers have bee portionately successful in obtaining good pecuniary results. Inde far as statistics are available, the reverse appears to be the case. of 85 factories, no fewer than 24 or 28·23 per cent. of the whol yielded no dividend for some years; four have paid a maximum dend of 2½ per cent, or 4·71 of all the companies; 7, or 8·25 pe of all the companies, have paid a maximum dividend ranging fro to 5 per cent.; 8, or 9·41 per cent., have paid a maximum divid from 5 to 7½ per cent.; 22, or 25·88 per cent., have paid a ma dividend of from 7½ to 10 per cent.; while 13, or 15·29 per cent. declared dividends of from 10 to 15 per cent., 7, or 8·24 per cent paid a dividend of more than 15 per cent.

TECHNICAL EDUCATION IN LONDON.—The *City Press* say in consequence of the large increase in the number of students Technical College, Finsbury, the Governors of the City and Gui London Institute propose to extend the buildings by tak additional premises at a rental of between £500. and £600. Upon the alteration and adaptation of the premises it will be nec to expend about £4,000.

THE INCANDESCENT GAS LIGHT COMPANY, LIMITED. report of the directors of this company for the year ended Marc states that the profit was £23,072, out of which the directors mend a dividend of £1. on the preference shares and 6d. ordinary shares. After paying the above dividend the balance is £12,723, which the directors think it advisable to retain further development of the undertaking in the current year.

THE GAS SUPPLY OF LEEDS.

ıg to the report of Mr. T Fairley, F.I.C., gas examiner the total proportion of sulphur contained in the Leeds gas month ended June 14th, 1894, has averaged 14·0 grains ıbic feet. The following are the results of tests made at the grains per 100 cubic feet :—

	Date when Tests were made.		Total Sulphur.	Ammonia.	Carbonic Acid.	
	May. 1894.	June. 1894.			Weight.	Volume.
ne....	19, 25, 29.	6, 12.	12·97	0·25	40·75	·05
y	17, 23, 30.	8, 11.	15·36	1·37	40·75	·05
.....	18, 24.	2, 9, 13.	13·24	1·19	48·90	·06
Works	..	..	14·00	0·36	40·75	·05
East						
.....	..	..	13·80	1·05	48·90	·06

the month the average illuminating power of the Leeds Gas 7, East Parade, the tests being calculated to a uniform con- f 5 feet per hour, and corrected for variations in temperature re to a temperature of 60° Fahr. and a barometric pressure nes, has been in standard candles (burning 120 grains of hour) :—Standard argand, 24 holes, 18·3; standard batswing, g's illuminating power meter, 18·3

Correspondence.

not hold ourselves responsible for the opinions expressed by our correspondents.

ESTIMATION OF CHLORINE IN BLEACH.

(To the Editor of *The Chemical Trade Journal.*)

find that in the estimation of commercial bleaching powder, or occurs, due to the combining of some of the Iodine used in on, with the free CaH_2O_2 in solution, whereby CaI_2 and formed and the active properties of the Iodine are lost.
ır, of course, would not be very large, but enough, I think, ed in a fairly expensive chemical like bleaching powder.—I
:., WALTER F. SUTHERST.
ytechnic, Zurich, June, 1894.

NITRATE OF SILVER.

(To the Editor of *The Chemical Trade Journal.*)

having come to our knowledge that certain statements have ated which are calculated to disparage the quality of the ilver nitrate, for which we have the sole sale, we think it o inform you that the Nitrate we supply is manufactured *silver* by one of the largest, if not *the* largest London viz., "The Wood-street Smelting Works," in absolutely niform quality, as supplied to the trade for the last 25 years, about a fortnight ago, through a firm of manufacturing enerally credited with having been the manufacturers of it. enceforth be known under its proper trade mark (a pair of the initials W.R), and lest any of our friends should still nisapprehension as to the quality, we would impress upon very batch of Nitrate of Silver is tested by an experienced fore it leaves the works, and we will guarantee its purity.—
:., FUERST BROTHERS.

AL GENERAL MEETING OF THE SOCIETY OF CHEMICAL INDUSTRY.

(To the Editor of the *Chemical Trade Journal.*)

ı view of the lamentable condition of Edinburgh, Leith, and oast of Scotland generally, in consequence of the outbreak ı there, I have been looking for an announcement to the the place of meeting had been shifted. Other fixtures for this summer have been so treated, and prudence has e action in every case. I do not know if the Executive ve been taking any action, but I am sure they must have painfully exercised in their minds over the unhappy *con-* f the meeting is, after all, held in Edinburgh, I shall go ; but ny eyes open, and it will be quite otherwise with members in Edinburgh from a distance, and there learn for the first nfit a place it is just now for a gathering of the kind, or for ng other than that of a commission for the investigation of scourge in its latest phases.—Yours, &c.,
, June 26th, 1894. FAIRPLAY

ANSWERS TO CORRESPONDENTS.

C.—The Annual Parliamentary Return, printed for the Board of Trade, gives the most reliable information. The return only deals with authorised companies and corporations. It is published in two parts, referring to companies and corporations respectively. Apply to Eyre and Spottiswoode The cost is small. Messrs. Hazell, Watson, and Viney, publish statistics of the places not included in the Government Report.

E AND S.—Send it as early as possible.

F. C. C —It will do.

S Co.—Thanks for acknowledgment.

W. F. S.—We should like more.

ECLIPSE.—We hope the information was of use.

THE DANGER-POINT OF BURNING OILS.

A DEMONSTRATION of an interesting series of experiments upon the relative flash and danger-points of mineral burning oils of Scotch, Russian and American origin took place at Linlithgow recently. The first experiment was made with Professor Abel's regulation test apparatus, in which oil is heated in an enclosed vessel two inches in diameter until the flash-point is reached. The sample tested was an American oil known as the Royal Daylight. It lighted at a temperature of 76°, or 3° above the Government standard. To show the arbitrary character of the Government test, a sample of the same oil was taken and placed in a vessel nine inches in diameter of exactly similar construction to that of Professor Abel, and in this case the flash-point fell to 69°. Next a popular Russian oil was tested, and was found to flash with the Abel apparatus at 84°, and in the extended experiment, when the larger body of oil was used, at 79°. Mr. Bishop, the chemist to the Linlithgow Oil Company, who conducted the experiments. next proceeded to illustrate the fire test. Filling a miner's lamp of the ordinary construction, he placed a small spirit lamp under it, applying a light to the oil repeatedly as the temperature rose. At 90° the oil flashed ; at 105° it burned for a few seconds ; at 110° it burned steadily until extinguished by the closing of the lamp. Subsequently the ordinary No. 1 oil of the company was tested by the regulation apparatus, a slow, tedious operation, for it did not flash until a temperature of 116° was reached. A number of Young's duplex metal lamps charged with Scotch, American, and Russian oil, which had been burning for some time, were also shown. A thermometer having been inserted into the several lamps, it was found that the temperature of both the American and Russian oils stood at 90° (or 17° above the standard) and of the Scotch oil at 88°. With a glass or a china lamp, the temperature in each case would have been several degress lower, and it was further stated that from the construction of the lamp in ordinary circumstances no danger arose from the high temperature *per se* in the case of either of the foreign oils. In the event of an *accident* occurring, however, the results might be serious ; and this Mr. Bishop next proceeded to demonstrate. Pouring a small quantity of American oil heated to 88° into a small metal cup, he applied a light and the oil immediately ignited. With the Russian oil the result was similar, though the flame did not so quickly catch the oil. Next the lighted match was thrown into Scotch oil, also heated to 88°, when the light was at once extinguished.

Market Reports.

MISCELLANEOUS CHEMICAL MARKET.

In the alkali trade the situation generally is without any change. In all alkalies the trade is quiet, and prices all round remain at a low level. Current quotations for caustic soda, subject to usual variations, according to market, are as follows :—f.o.b. Tyne, 77%, £10. 15s. ; f.o b. Liverpool, 74%, £9. 15s.; 70%, £8. 15s.; 60%, £7. 15s. per ton, 10-ton lots and upwards. For ammonia alkali, 58%, £3. 2s. 6d. per ton, bags, makers' works, is the current quotation for spot and forward delivery, though business has been done below this price. Soda crystals extremely dull, at £2. 2s. 6d. to £2 5s., bags, makers' works. Bicarbonate lower. Recovered sulphur quiet at £3. 12s. 6d. to £3. 15s., f.o r. Bleaching powder continues an active market, at £7. 10s., softwoods, f.o.r., and £8. to £8. 5s. per ton, hardwoods, f.o b. For sulphate of copper the demand for export is falling off, and

he quotation is now £15. to £15. 5s., f.o.b. Nitrate of soda on the spot is 9s. 6d. per cwt., and 9s. for forward delivery. For vitriol and muriatic acid there is fairly good inquiry, and prices are unaltered. Saltcake still a depressed market, owing to small demand, and price nominally 17s 6d. to 20s., on rails, makers' works. White powdered arsenic firm at £14. 5s., with only small stocks on hand. Demand continues brisk for potash, caustic and carbonate, and prices are firm. Prussiate of potash in good request at 10½d. to 10¾d., according to quantity. Brown and grey acetates of lime are firmer in price, but there is still only a moderate demand. Other acetates are without change in position, and there is no improvement in prices. In acetic acid there is fairly good business doing at current quotations. For iron salts there is more inquiry, though copperas is still in excess of requirements, and prices are consequently low. In borax the trade continues depressed, the recent reduction in price having done little to stimulate demand, present quotation £22. Carbolic acids, crystal and liquid, show no immediate sign of advance, though prices are firm. Aniline oil and salt are without improvement. Ammonia salts steady all round at recent quotations. The trade in chemicals from all quarters is reported quiet, and prices generally are much depressed.

TAR AND AMMONIA PRODUCTS.

Tar products generally are practically unaltered. Benzols are without change. Carbolic acid, crude (60%) and crystals (40%), are unaltered in price or position. Crude naphtha keeps about the same, but there is a tendency to increased firmness in solvent, which is worth 1s. 3½d. Pitch is firm at 31s. to 32s., f.o.b. East Coast.

Sulphate of ammonia is quiet. Forward business unsettled. Nearest quotations are :—Beckton £14., London outside makes £14 , Liverpool £13. 17s. 6d., Hull £13. 17s. 6d., and Leith £13. 17s. 6d.

REPORT ON MANURE MATERIAL.

During the week a moderate amount of business has been done for forward delivery, but spot has been quiet, the season being now practically over. Sellers of 75/80% Florida phosphate rock are rather firmer, and 8½d. has been paid for the Baltic. For Continental ports 8d. per unit is probably nearest value, and this price is now required for United Kingdom. For South Carolina River rock, 6½d. per unit would be accepted, and for 1895 shipment possibly a fraction less. Peace River rock is worth 6½d. per unit. Other phosphates are unchanged in values. There are inquiries for handy cargoes of River Plate bones, and £4. 13s. 9d. could be obtained—possibly £4. 15s. —but none offering meantime. For large cargoes £4. 12s. 6d. per ton would, no doubt, do. River Plate bone ash is worth about £3. 7s. 6d., Hamburg contract terms. Crushed Kurrachee bones, for shipment, may be had at £4. 15s. per ton, ex quay Liverpool or Hull. Shippers of Bombay bone meal are very firm in their ideas, and £4. 17s. 6d. ex ship required for forward shipment. For fine No. 3 grist, £5. would have to be paid. Nitrate of soda is unchanged: on spot the value of ordinary quality is 9s. 4½d. per cwt., and of fine quality 9s. 6d. per cwt. Due cargoes are worth about 9s. per cwt., and later shipments 8s. 10½d. to 9s. 1½d. per cwt., according to position, would be business.

THE COPPER MARKET.

Messrs. Harrington and Co., in their fortnightly report, dated Liverpool, June 19th, 1894, state :—

Chili Charters for the past fortnight are cabled as 1,100 tons, making the total since 31st December last 9,350 tons, against 8,250 tons same time last year. Exchange 11½d., but since cabled 11⅜d., to-day 11¾d. Since our last Copper Report, dated 1st June, G.M.B.'s have declined about 15s. per ton on sales, including G.O.B.'s of about 6,000 tons. To-day the lowest price was touched, £37. 17s. 6d. cash, and sales were made for all this year's delivery, at sellers' option, at this price, and also at £37. 18s. 9d., market closing at £37. 18s. 9d. cash, and £38. 7s. 6d. three month sellers. The *Pitcairn Island* with a cargo of Boleo copper produce (400 tons bars and 1,800 matte) arrived at Dunkirk on the 8th inst., from Santa Rosalia. The total stocks in Liverpool, Swansea, London, and Havre are 45,753 tons, against 43,780 tons on the 1st inst., showing an increase of 1,973 tons for the fortnight. The stocks include about 1,500 tons of copper sold but not yet delivered to smelters. The visible supply for the fortnight is 49,164 tons, against 47,615 tons on the 1st inst., showing an increase of 1,549 tons. The stock of English G.M.B.'s in Liverpool remains at 2 tons. Refined and manufactured sorts are dull and very little doing. Quotations being :— Tough cake, £40. 5s. to £40 15s ; best select, £41 to £41. 10s. ; Indian sheets, £45.5s. to £45 10s. ; strong sheets, £49 to £50. ; and yellow metal sheets, 4d. to 4 1/16d. per lb.

The sales of furnace material comprise—At Liverpool : 200 tons Mexican ore, at 7s. ; 40 tons Egyptian ore, at 6s 7½d. ; 25 tons Chili ore, at 7s. ; 9 tons Peruvian ore, at 7s. per unit ; and 54 tons Argentiferous Chili Regulus on private terms.

THE METAL MARKET.

LONDON, Wednesday.—Pig iron, quiet : Scotch warrants closed at 42s. 0½d., Middlesbrough 35s. 5d. cash, and hematite 44s. 1½d. Copper, quiet : Chili bars, G.O.B.'s and G.M.B.'s, closed at £38. to £38. 5s. cash, and £38. 7s. 6d. to £38. 12s. 6d. three months. Tin, steadier: Straits closed at £68. 15s. to £69. 5s. cash, and £68. 12s. 6d. to £69. 2s. 6d. three months ; Australian, £69. 10s.; English ingots, £72. 10s. Lead, firm : Spanish, £9. 2s. 6d. ; English, £9. 3s. 9d. to £9. 5s. Silesian Spelter, ordinary, £15. 15s. Nickel, 1s. 8d. Antimony, £32. 10s. Quicksilver: First hands, £6. ; second hands, £5. 19s. *Copper shares*, quiet : Caje, 1 5/16 to 1 1/16 ; Copiapo, 1 1/16 to 1 1/16 ; Libiola, 2⅞ to 3⅛; Mason and Barry, 2¼ to 2⅜ ; Rio Tinto, 12⅞ to 13 ; Tharsis, 4¼ to 4⅜.

LIVERPOOL OIL AND COLOUR MARKET.

Wednesday.

OILS.—Palm oil is rather dull, and sales are only moderate. Lagos is quoted £21. 5s. per ton, to arrive ; Cameroon has sold on spot at £20. 5s., and New Calabar at £20. 2s. 6d. Olive is steady, with a rather better inquiry, spot selling at steady prices. Linseed continues firm at 22s. 6d. to 23s. per cwt. for Liverpool makes in export casks. Cottonseed is about the same, Liverpool refined being quiet at 21s to 21s 6d per cwt. Castor oil is fairly steady : good seconds Calcutta is firm at 2 5/16d., and first pressure French is a fraction easier at 2½d. per lb. Forward business easier. Tallow is quiet, but values remain stationary. Resin is slow of sale, with common at 3s. 7½d. per cwt., and other grades in proportion. Spirits of turpentine are being fairly well inquired for at the reduction, 23s. 6d. per cwt. now being spot value. Petroleum just about drags along with quotations at 4⅝d. to 5½d. for American and 3⅝d. to 3¾d. per gallon for Russian refined.

COLOURS are steady without alteration in prices. Ochres: Oxfordshire, common, £10., medium, £12., best, £15.; Derbyshire, common, 40s.; medium, 50s., best, 60s. ; Welsh, best, 70s., seconds, 50s., and common, 18s.; Irish, Devonshire, 40s. to 45s.; French, J.C., 55s. to 60s.; M.C., 65s. to 67s. 6d. Umber: Turkish quiet ; Devonshire, 50s. to 55s. White lead, and oxide of zinc unchanged. Venetian red, £6. 10s. to £10. Cobalt: Prepared oxide, 9s. 9d. ; black, 9s.; blue, 6s. Zaffres : No. 1, 3s. 6d. ; No. 2, 2s. 6d. Oxide of iron : Common, £6. ; medium, £10. ; finest, £20. Zinc oxide, £23. to £25.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, Tuesday.

Sulphate of ammonia has continued to lean to the falling side, notwithstanding the prospect of a serious stoppage of production so far as the Scotch field is concerned, owing to the attitude of the miners. The drop, however, has been very deliberate, the lowest known to be accepted for prompt f.o.b. Leith up to the hour of writing being £13 17s. 6d. There is no business to report so far as regards the forward section of the market.

The feeling in general chemicals is excessively dull, what there is doing being made up rather of bygone unexhausted transactions than of new business. Prices generally, however, are unmoved, except in the case of chlorate of potash, which is quoted at a substantial reduction. The Scotch works (Glasgow and Irvine) of the United Alkali Company are reported as closing down in view of the mining troubles and near approach of the annual Glasgow and West of Scotland general industrial cessation from work for a week, more or less.

Mineral oil makers are looking forward to a readjustment of burning oil selling figures for another year. Most likely they will find themselves forced to give way still a little more—truly, a hard necessity for this sorely-burdened industry.

Chief prices current are :—Soda crystals £2. nett, Tyne ; soda ash 48/52° £3. 12s. 6d. to £3. 17s. 6d. nett, Tyne ; white alkali 48/52° £4. 10s to £5. 5s. nett, Tyne; alum in lump £5. 10s. nett, Glasgow, caustic soda, white, 74° £9. 17s. 6d., 70/72° £8. 17s. 6d., 60/62° £8. ; and cream 60/62° £7. 15s., all nett, Liverpool ; bleaching powder £7. 10s., nett, Tyne; saltcake, 17s. 6d. ; borax, English refined, £22. 10s , and boracic acid, £32. 10s. nett, Glasgow ; bicarbonate of

:wt. casks, £6. 10s., and 1 cwt. casks £6. 15s. nett, Liverpool; ite of potash, 4½d. nett, for Scotch and English deliveries (for ¼d. nett, f.o.b. Glasgow); bichromate of soda, 3¾d. nett, for nd English deliveries (for export, 3½d. nett, f.o.b. Glasgow); of potash, 6⅞d. less 5%, Liverpool; nitrate of soda, ; sulphate of ammonia, £13. 17s. 6d, prompt, f.o.b., Leith; oniac, first and second white, £39. and £37. nett, any port; of copper, £15. 10s., less 5% Liverpool; paraffin scale, hard 1⅞d. l. to 2d. per lb.; paraffin wax 120° semi-refined 2⅜d. to 2½d.; spirit (naphtha), 3½d. to 4d. per gallon; paraffin oil (burning), No. 1 grade, 5d. at works, for Scotch buyers (English sales, ¾d. lower); ditto (lubricating) 865° £3. 10s. to £3. 12s. 6d; 4. to £5. 0s., and 890/895° £4. 0s. to £5. 10s. Week's of raw sugar at Greenock were 11,040 bags.

TYNE CHEMICAL REPORT.

TUESDAY.

hemical trade is quiet. Soda crystals are nominally £2. per leaching powder £7. 5s. per ton. Sulphur firm at £3 17s. 6d. Caustic soda, 76/77%, £10. 10s. per ton.

hing Powder, softs, £7. 5s. per ton, nett; hards, £7. 10s per ton. austic soda, 76/77%, £10. 10s. per ton, nett; do., 70%, £9. nett; recovered sulphur, 2 cwt. bags, £3. 17s. 6d. per ton, nett. h, 48%, £3. 12s. 6d. per ton, nett; do., 52%, £3. 16s. 3d. nett; do, 56%, £4. per ton, nett; alkali, 36%, £2 15s. nett; white alkali, 48%, £4. 10s per ton, nett; do, 50%, £4. ton, nett; do., 52%, £5. 5s. per ton, nett; hyposulphite of 7 cwt. casks, £5. per ton, nett; do., 1 cwt. kegs, £5. 10s. nett; silicate of soda, 75° Tw., £2. 17s. 6d. per ton, nett; 0° Tw., £3. 12s. 6d per ton, nett; do., 140° Tw., £4. on, nett; soda crystals, casks, £2. per ton, weight; do., 2 cwt. bags, £2. per ton, nett; of potash, 7½d. per lb, less 6%; pearl hardening, r ton, nett; pure white sulphate of alumina, £4. 2s. 6d, nett; blanc fixe, £7. 10s. per ton, nett; chloride of barium, . per ton, nett; carbonate of alumina, £28. 15s. per ton, luminate of soda, £33. 15s. per ton, nett; in 5 ton lots, £28. ton, nett.

T.—South Durham salt steady, at 10s. and 10s. 6d. per ton, 'ees.

LS.—Trade here is steady, and as the output will be restricted er the race holidays are over, prices are likely to be maintained next week or two. To-day the current rates are:—Best nbrian, 11s. and 11s. 6d. per ton; second class (steam), 10s.; small (steam), 4s. 9d. and 5s. per ton; bunker coals, plenti- and 7s. 3d. per ton; coke, firm: 13s. 6d. and 15s. per ton.

LL PAINT, OIL, AND COLOUR REPORT.

TUESDAY.

.—Business is very indifferent, all firms appear to be anxious nticipate as far as possible their half year's balancing, if small ssist to this end. The tendency of shipping here seems to be the smaller kine are becoming absorbed, by the big fat kine here re is only one. The import during the week has been in linseed qrs. viz from Bombay, 15,246 qrs., Libau, 1,230 qrs, St. urgh, 259 qrs., Harlingen, 20 qrs. and 3,689 qrs. from River the import of cottonseed has been 1,110 tons from Alexandria, tons from Brazils; of rapeseed there has been an import of rs. from Kurrachee, and 1,095 qrs. from Ibrail. A tank steamer arrived with petroleum from America, also a cargo of rosin and cargo of turpentine. Linseed oil on the spot has declined about per ton, closing with sellers at 20s. 6d. naked; month 20s. 4½d. d positions have hardly altered, July-August offering at 20s., tember-December at 18s. 9d.; January-April sold at 18s. 9d. nd refined ditto. from £1. to £2. per ton extra, ordinary barrels per ton extra. Export for the week has been 1,800 cwts. cotton oil steady at 18s. 9d. naked spot, July-August 19s. November-April still 17s. 9d. Crude on the spot is quoted Export of refined for the week has been 3,280 cwts. Turpentine . Olive oil from £30. per tun. Castor oil, first pressure, 2¼d. Cod oil quiet, from £17. to £19. per ton. Sod oil from £16. to r ton. Pine oil from £6. per ton. Petroleum jelly, orange, 4d. white 8½d. per lb., in tins of 5 lbs.

ES.—Linseed cakes quiet; 95% pure £6. 10s. to £6. 12s. 6d. s, £6 12s. 6d. Oilcakes, £5. 15s. Cotton cakes in slow but steady in price, the crushing margin being very small; Best £4. 2s. 6d. to £4. 5s.; seconds £3. 17s. 6d. to £4. Rape cakes ea £3. 2s. 6d.; feeding cakes £4. 12s. 6d.

NTS.—If this fine weather continues the paint and varnish are anticipating lively times during next month. White lead in . per ton. Red lead dry £13. 10s. Oxide of zinc £22. per ton. Oxide of iron dry, £9 to £18. per ton. Venetian read dry, from £3. 15s. per ton; blue black, £4. 5s. per ton; mineral black, £4.; yellow ochre from £3. 15s. per ton, casks free, f.o.b. port. Common black varnish £5. 10. per ton in barrels. Oak varnish from 5s. 6d. per gallon. Ready mixed paints in tins from £26. per ton.

New Companies.

Central Chili Copper Company, Limited.—CAPITAL £225,000., in £1 shares. This company has been formed to execute an agreement between the Panulcillo Copper Co and others, to work minerals in general. The subscribers to the memorandum of association are:—E. Hendry, 56, Forest-lane, E., clerk; H. Hendry, 56, Forest-lane, E., chemist; F. Devonshire, 15, Brunswick-square, S.E., hay salesman; E. Newmark, 112, Kennington Park-road, S.E., hay salesman; J. T. Legrin, 5, Manor Villas, Colliers Wood, Merton, journalist; Arthur Goddard, St. George's House, E.C, chartered accountant; A. Anderson, 104, Clifton Crescent, Old Kent-road, S.E., hay salesman.

Economic Smoke Consumer Company, Limited.—CAPITAL £6,000., in £1. shares This company has been formed to acquire certain patent inventions for the consumption of smoke.

I. C. Johnson and Company, Limited.—CAPITAL £125,000., in 2,500 preference and 10,000 ordinary £10. shares. This company has been formed to acquire and carry on the business of cement manufacturers now carried on at Gateshead, Durham, and Greenhithe, Kent, by Messrs. I. C. Johnson and Company. The subscribers to the memorandum of association are:—I. C. Johnson, Mayfield, Gravesend, cement maker; Thomas W. Gibson, Newcastle-on-Tyne, solicitor; J. Walton, 81, Jesmond-road, Newcastle-on-Tyne, cement maker; C. Charleton, 4, Eastcheap, E.C, cement maker; C. H. Watson, The Mount, Greenhithe, cement maker; A. B. C. Gibson, Newbrough Hall, Fourstones, architect; R. Pybus, 42, Morley-street, Newcastle-on-Tyne, solicitor.

The Lagunas Nitrate Company, Limited.—CAPITAL £900 000., in shares of £5 each. This company has been formed to produce and deal in nitrate of soda and iodine on the lands of the Lagunas Syndicate, situate in the province of Tarapaca, Chili. The subscribers are:—J. T. North, Avery Hill, Eltham, nitrate engineer, 500; E. Edmondson, 60, Castle-street, Liverpool, merchant, 200; G. Fleming, 9, Billiter-square, E.C., merchant; T. D. Murray, Windsor, Esq; M. Jewell, Hall-place, Bexley, merchant; R. R. Lockett, 12, King-street, Liverpool, merchant; J. W. Budd, 24, Austin Friars, E.C., solicitor; R. Harvey, J.P., 1, Palace Gate, W.; G. A. Lockett, 51, Queen's Gate Gardens, merchant.

Messrs. Robinson Brothers, Limited.—CAPITAL £150,000., in shares of £10. each. This company has been formed to carry on the business of manufacturers of tar, pitch, and ammoniacal liquor now carried on by Messrs. Robinson Brothers at Stafford, Knottingley, Yorks, and Derby, and to trade as manufacturing chemists and metallurgists. The subscribers to the memorandum of association are:—W. L. Robinson, Coventry, tar distiller; C. T. D. Bushell, Great Barr, Stafford, tar distiller; H. W. Robinson, Coventry, tar distiller; E. L. Robinson, Leeds, tar distiller; S. H. Robinson, Coventry, tar distiller; H. E. Robinson, Coventry, married woman; M. E. Bushell, Great Barr, Stafford, married woman.

McKenzie, Limited.—CAPITAL £25,000 in shares of £4. each. This company has been formed to acquire and take over the business of chemical and artificial manure manufacturers, feeding stuff makers, etc. The subscribers to the memorandum of association are:—W. McKenzie, 212, Great Brunswick street, Dublin, merchant; J. B. McKenzie, Lower Glanmire-road, Bellevue-road, Cork, merchant; G. St Clair McKenzie, Bellevue-terrace, Cork, gentleman; G St. Clair McKenzie, Bellevue-terrace, Cork, married woman; T. Lindon, 5, Camden Quay, Cork, merchant; R. Gregg, 67, South Mall, Cork, solicitor; A. Magner, South Mall, Cork, solicitor.

Lever Brothers, Limited.—CAPITAL £1,500,000. This company has been formed for the purpose of acquiring the business of soap manufacturers carried on prior to May, 1890, by the firm of Lever Brothers, and subsequently by the vendors, Lever Brothers, Limited, at Port Sunlight, near Birkenhead, and at Paul's Wharf, London. The capital of the company is divided into 75,000 five per cent. cumulative preference shares, and 75,000 ordinary shares of £10. each. The whole of the ordinary shares and one-third of the preference shares will be issued to the vendors in part payment of the purchase money, and the present issue is 50,000 preference shares. The purchase price of the whole of the property has been fixed at £1,389,559., payable as to £250,000. in preference shares and as to £750,000. in ordinary shares, all fully paid. The balance, £389,559, will go to recoup the vendors all payments made in respect of the liabilities of the business as at December 31, and the subsequent outlay on the works, and to pay off the remainder of such liabilities. The subscription list opened on Thursday last and closed the same day.

Matthews' White Lead, Limited.—Capital £25,000., in shares of £1. each. This company has been formed to carry on the business of manufacturers of lead and lead desilverisers and to trade as chemists, drysalters, and colourmen.

The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of George E. Davis and Alfred R. Davis, who report professionally upon the value of Chemical Patents.

APPLICATIONS FOR ENGLISH LETTERS PATENT.

Treating Cobalt and Nickel Ores. C. Hoepfner. 11,307. June 11.
Treating Cottonseed Oil. F. B. Aspinall. 11,324. June 11.
Improvements in Chemical and Metallurgical Furnaces. J. Wilkinson. 11,354. June 12.
Leather Belting Cement. W. H. E. Boulton. 11,384. June 12.
Manufacture of Pigments. J. Hargreaves and T. R. Hewlett. 11,454. June 13.
Manufacture of Explosives. R. E. Brown and C. O. Lundholm. 11,458. June 13.
Method of Precipitating the Solid Matter of Sewage A. Moseley. 11,484. June 13.
Steampan for Boiling Sugar, etc. G. Fletcher. 11,525. June 13.
Explosives. A. V. Newton. 11,582. June 14.
Process and Apparatus for the Electro Decomposition of Solutions a Separating the Electrolyte L. P. Hulin. 11,587. June 14.
Smoke-Consuming Furnaces. R. Mattern and O. Skrivan. 11,598. June
Explosives. A. V. Newton. 11,644. June 15.
Improvements in the Manufacture of Ammonia Soda. J. Greenwo 11,655. June 15.
Manufacture of Chlorine and Caustic Alkalies by the Electroly Decomposition of Sodium or Potassium Chlorides. T. Drake. 11,6 June 16.
Manufacture of Fireclay. L. Jones. 11,705. June 16.
Extracting Zinc from Calamine and other Ores. C. Hoepfner. 11,7 June 16.

Gazette Notices.

PARTNERSHIPS DISSOLVED.

C. B. Casebourne and T. Arnold, West Hartlepool, concrete manufacturer under the style of the Hartlepools Concrete Co.

BANKRUPTCY ACTS, 1883 and 1890.

Receiving Order.

Nicholls Wm, Nicholls W. W. R., and Nicholls F. H. (trading as Wm Nicholls, Wm. Nicholls and Co, and the Lower Lansalson China Clay Co St. Austell, Cornwall, clay merchants.

Adjudication.

Guest W and Ward S. (trading as Wm Nickelthwaite and Co.), Sheffield and Middlewood, near Sheffield, steel manufacturers.

IMPORTS OF CHEMICAL PRODUCTS
AT
THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending June 16th.

Acetic Acid—		
Holland,	232 pkgs	A. & M. Zimmermann
Belgium,	10	T. H. Lee
Holland,	10	J. Owen
Acid Phosphates—		
U. States,	100 pkgs.	Seaward Bros., Ltd.
Alkali—		
Holland,	4,000 c.	R. Waters
Aluminium—		
Belgium,	15 c.	Major & Field
Ammonia—		
U. States,	60 pkgs.	W. Balchin
Antimony Ore—		
Australia,	35 t	H. Bath & Son
,,	8	Major & Field
N. S. Wales	40	F. Williams
France,	14 c.	H. Johnson & Sons
Asbestos—		
U. States,	£1,269	Beck & Pollitzer
France	86	Mory & Co.
Holland,	15	Phillipps & Graves
Italy,	130	Cape Asbestos Co.
Belgium,	32	Sawer, Sons & Co.
Barytes—		
Germany,	110 cks.	W. Harrison & Co.
,,	16	H. Lambert
,,	19	S. H. Willoughby
Holland,	57	Magee, Taylor & Co.
Belgium,	62	J. L. Lyon & Co.
,,	43	W. Harrison & Co
Caoutchouc—		
Java,	6 c.	J. Peet & Co.
Madagascar,	428	Procter Bros.
,,	98	Hammond & Co.
E. Indies,	184	Huttenbach & Co.
Zanzibar,	11	Kleinwort Sons & Co.
,,	12	L. & I. D. Jt. Co.
U. States,	17	,,
Madagascar,	10	Prop. Bull Wf
Cartagena,	120	,,
France,	72	H. Johnson & Sons
Rangoon,	880	L. & I. D. Jt. Co.
Ceylon,	5	J. A. Hadden & Co.
Germany,	4	T. H. Lee
Carbonic Acid Gas—		
Holland,	100 pkgs.	F. J. Putz & Co.
N. Zealand,	27	Nelson Bros, Ld.
Castor Oil—		
Germany,	30 brls.	Burrell & Co.
Italy,	25 cs.	Capt. Hughes
,,	20	W. J Bush & Co.
France,	16	Beresford & Co
,,	5	W. G. Frith & Co
,,	50 brls.	J. T. Morton
,,	58	J. Greig
,,	40	Leach & Co.
Caustic Potash—		
Belgium,	114 c.	Petri Bros.
Holland,	100	Beresford & Co.
Caustic Soda—		
Holland,	2,500 c.	G. F. Galbraith
Chemicals (*otherwise undescribed*)		
Germany,	1 cs.	Craven & Co.
Belgium,	2	T. Palmer
Holland,	47	F. Boehm
Germany,	13 pkgs.	L. & I. D. Jt. Co.
,,	83	T. H. Lee
,,	28	A. & M. Zimmermann
U. States,	39	A. P. Morris
Chrome Alum—		
Holland,	7 pkgs.	E. Fellingham
Citrate of Lime—		
Italy,	20 cks.	B Jacob & Sons
Cobalt Ore—		
Sydney,	90 t	Houlder Bros.
Cream of Tartar—		
Holland,	14 pkgs	Kirkpatrick & Co
Italy,	9	Fellows, Morton & Co.
France,	10	M. Ashby, Ld.
,,	21	W. C. Bacon & Co.
,,	5	B & F. Wf. Co.
,,	2	T. Trapp & Sons
,,	5	C. Christopherson & Co.
Portugal,	5	B. & F. Wf. Co
Spain,	7	,,
,,	12	W. C Bacon & Co.
Italy,	2	,,
,,	15	B. Jacob & Sons
Dyestuffs—		
Annatto		
France,	3 pkgs.	C. Faust & Co.
Denmark,	6	R. J. Fullwood & Bland
Argols		
Italy,	141 pkgs.	Thames S. T. & L Co, Ld.
,,	2,072	B. Jacob & Sons
Cochineal		
Canaries,	13 pkgs.	Marshall & French
Cutch		
Rangoon,	1,750 pkgs.	Leach & Co.
,,	950	H. A. Litchfield & Co.
,,	200	A. Howden & Co.
,,	250	Johnson, Hicks & Co.
,,	20	Beresford & Co.
,,	250	Hoare, Wilson & Co.
Extracts		
Denmark,	96 pkgs.	McDougall & Co.
,,	31	A. F. White & Co
,,	26	Bailey & Leetham
Norway,	1	Johnson & Jorgenson
U States,	50	Skilbeck Bros.
,,	27	W. Burton & Sons
Denmark,	15	Sorensen & Co.
,,	15	R J. Fullwood & Bland
France,	104	Carey & Sons
,,	25 cks.	B. & F. Wf. Co
Fustic		
Malta,	2 t.	L & I. D. Jt. Co
Gambier		
E. Indies,	254 pkgs.	Union L. Co.
,,	1,203	R. & J. Henderson
,,	840	Ross & Deering
,,	654	S. Figgis & Co.
,,	215	L. & I. D. Jt. Co.
,,	207	J. Greig
Indigo		
Germany,	1 chts.	Schoulauck, Engel & Co.
E Indies,	63	L. & I. D. Jt. Co.
,,	16	E. Bower & Co.
,,	21	Croysdale & Co
,,	9	Parry & Co.
,,	42	Park Macfadyen & Co.
,,	72	R. Von Glehn & Sons
,,	58	Arbuthnot, Latham & Co.
Holland,	6	Phillipps & Graves
Germany,	2	L. & I. D. Jt Co
Logwood		
Jamaica,	17 t	L. & I D. Jt. Co.
Myrabolams		
E Indies,	667 pkgs.	J Graves
,,	334	Darling Bros.
,,	198	J. P. Alpe & Co.
Orchella		
Ceylon,	7 pkgs	Hoare, Wilson & Co.
Shumac		
Italy,	1,000 pkgs.	Bevington & Sons
,,	300	Beresford & Co.
,,	650	J. Kitchin, Ld.
,,	50	J Knill & Co.
,,	200	J. E Scott
,,	500	Harris Brs.
Tanner's Bark		
Belgium,	10 t.	Leach & Co.
Adelaide,	50	J Greig
,,	77	Beresford & Co.
Turmeric		
E. Indies,	107 pkgs.	Anderson, Weber & Smith
,,	134	L. & I. D. Jt. Co.
,,	300	Lucas & Spencer's Wf.
Valonia		
A. Turkey,	175 t.	Boutcher, Mortimore & Co.
,,	285	A. & W. Nesbitt
,,	105	C. Scheeps & Co
Dyestuffs (*otherwise undescribed*)		
U. States,	25 pkgs	N. S. S. Co.
,,	5	McKellar, Carr, & Co.
Farina—		
Germany,	100 pkgs.	Seaward Brs.
,,	50	B. & F. Wf. Co., Ltd.
,,	150	J. Barber & Co.
Glucose—		
Germany,	6 pkgs. 50 c.	J. Knill & Co
,,	13 104 c.	M. D Co.
France,	200 200	J. Barber & Co.
U States,	49 294	Soundy & Sons
,,	200 1,200	Union L Co., Ltd.
,,	840 840	Pearce, Pelly, & Co
,,	644 1,309	Prop Chmlln, W
,,	1,299 7,336	L. Sutro & Co.
,,	1,000 1,000	J. Barber & Co.
Germany,	200 200	,,
,,	25 200	Pillow, Jones & Co.
,,	800 800	Baxter & Hoare
Manganese Ore—		
N. Zealand,	11 t.	L. & I. D. Jt Co
,,	50	Julius & Co
Manure—		
Holland,	6 t.	H. & E. Albert
Belgium,	100	,,
E. Indies,	400	F. J Cornwell & Co.
,,	25	A. Hunter & Co.
France,	41	J. Burnett & Son
Sydney,	50	T. Farmer & Co.
N. Russia,	10	Darling Bros.
Methyl Alcohol—		
Germany,	4 dms.	Elkan & Co.
,,	9	Stein Bro
Holland,	100 pkgs.	Lister & Biggs
Belgium,	6 cks.	,,
Ochre—		
Holland,	31 pkgs.	Phillipps & Graves
France,	74 cks	Magee, Taylor & Co.
,,	134 brls.	W. Harrison & Co.
Paraffin Wax—		
Germany,	1 ck.	T. H. Lee
Rangoon,	405 cs.	H. Hill & Son
U. States,	80 brls.	G. H. Frank
Phenic Acid—		
France,	1 pkge.	White Bro.
Phosphate Rock—		
France,	140 t.	D. de Pass & Co.
,,	128	A. Hunter & Co.
Pitch—		
Germany,	13 cks	Poth, Hille & Co.
France,	172	H. Hill & Son
Plumbago—		
Germany,	104 cks	B. Galloway
,,	18	H. J. Enthoven & Sons
Ceylon,	31 121 brls.	Beresford & Co
,,	159	J. Forsyth
,,	54	J. Threadder, Son & Co
,,	240	R. G. Hall & Co

es, 20 pkgs. S. Guiterman & Co.
5 bgs. Fellows, Morton, & Co
—
, 430 c. F. W. Berk & Co.
ium Carbonate—
, 3 c. J Burnett & Sons
50 Spies Brs. & Co.
ium Chloride—
d, 102 pkgs Anderson, Weber, & Smith
ium Sulphate—
d, 406 pkgs. Co-op. Lightrge. Association, Ltd.
Stone—
28 t. O'Hara & Hoar
1 c. H. B. Adler & Co.
—
760 t. C. L. Vasey & Co.
1,993 C. Tennant, Sons, & Co.
1,000 Naylor, Benzon, & Co.
lver—
3,800 flks. N. M. Rothschild & Co.
101 btls. L. & I. D. Jt. Co.
100 flks. H. Bath & Son
, 100 ,,
-
, 15 brls. Lucas & Spencer's Wf
es, 600 G. Nutter & Co.
re—
ıy, 8 cks. Petri Brs.
es, 945 bgs. L & I. D. Jt. Co.
ıy, 40 cks. J. Hall & Son
ıy, 70 c. H. Lambert
—
n, 268 pkgs. F. Rosenthal & Co.
80 T. H. Lee
60 Leach & Co.
56 Forwood Brs. & Co.
es, 100 Oswego Co.
ıy, 2,820 Horne & Co.
280 Phillipps & Graves
d, 120 Little & Johnston
80 T. H. Lee
es, 290 Beck & Pollitzer
le—
, 243 bgs. Beresford & Co.
80 Bennett S. S. Co.
80 Walbaum & Tosetti
100 H. Hill & Sons
n, 332 ,,
r—
27 t. J. Kitchin, Ltd.
36 G. Boor & Co.
5 J. Puddy & Co.
lc Acid—
ıy, 14 pkgs. F. C. Devon & Co.
d, 12 Kirkpatrick & Co.
19 B & F. Wf Co, Ltd.
9 F. C. Devon & Co.
ıia, 2,136 brls. W. F. Malcolm & Co.
tine—
, 35 pkgs. T. Trapp & Sons
arine—
ıy, 32 cks. T. Hamilton
12 Magee, Taylor, & Co.
20 Thames S. T & L. Co., Ltd.
23 pkgs. Steinhoff, Sons, & Co.
25 cs. Co-op. Lightrge. Association. Ltd.
d, 3 Haeffner, Hilpert, & Co.
n, 10 cks 15 pkgs. Leach & Co.
11 W. Harrison & Co.
d, 3 Magee, Taylor, & Co.
h—
, 19 pkgs. Flageollet & Co.
es, 5 Anglo-American Oil Co., Ltd.
2 Prop. Hay's Wf
3 D. Judson & Co.
, 15 Suter, Hartmann & Co.
ris—
, 1 pkge. H Lorenz
Lead—
d, 50 cks. Burrell & Co.
30 A. & M Zimmermann
n, 23 J. L. Lyon & Co.
2 Beresford & Co.
Germany, 31 Petri Brs.
,, 41 M. Ashby, Ltd.
, 11 H. Lambert
Belgium, 38 Burrell & Co.
,, 63 pkgs. L. Le Personne & Co.
Wood Pulp—
Sweden, 3 pkgs. Henderson, Craig, & Co.
,, 203 W. G Taylor & Co
Norway, 500 ,,
,, 1,130 Morton Cox Brs.
Germany, 245 O. Herrlich
Holland, 1,000 E J. & W. Goldsmith
Germany, 102 W. Friedlander
,, 920 Elkan & Co.
Zinc Oxide—
Holland, 81 brls. M. Ashby, Ltd.
Germany, 50 ,,
,, 40 cks. J. Matton
Holland, 25 Burrell & Co.
, 15 J. Barber & Co.
Germany, 5 Beresford & Co.

LIVERPOOL.

Week ending June 14th.

Acetate of Lime –
New York, 901 bgs.
Antimony—
Antofagasta, 395 bgs. Hainsworth Watson
Antimony Ore—
Antofagasta 539 bgs. A. Gibbs & Son
,, 146 D. Maclean & Co.
,, 1,265 181 sks. Aillon, Aramayo & Co.
,, 326 Hainsworth Watson
,, 467 Kleinwort, Son & Co.
,, 356
Antimony Salts—
Rotterdam, 7 kgs.
Arsenic—
Hamburg, 10 cks.
Barytes—
Antwerp, 50 bgs.
Bone Ash—
Campana, 728 bgs.
Borate of Lime—
Antofagasta, 375 bgs. 770 sks.
Iquique, 563
Caoutchouc—
Havre, 8 cks. 225 pkgs. Cunard S S. Co., Ld.
Castor Oil—
Genoa, 10 cs.
Marseilles, 12 brls.
Calcutta, 374 cs. Ralli Brs.
,, 65
Cellulose—
Fiume, 204 bls. W. Friedlander
Colours—
Rotterdam, 2 cs. 1 ck.
Stettin, 20
Hamburg, 40
Gothenburg, 1 brl. Bahr, Behrend & Ross
Cottonseed Oil—
New York, 45 brls.
Baltimore, 300
Cream of Tartar—
Barcelona, 13 hds. 5 cks.
Tarragona, 1 ppe.
Rotterdam, 2
Dried Blood—
Campana, 290 bgs.
Dyestuffs—
Algarobilla
Huascho, 473 bgs. A. W. Real
Cutch
Philadelphia, 3 bls. Bancroft, Burn & Co.
Divi Divi
Bombay, 118 bgs.
Extracts
Ghent, 50 cks. J. T. Fletcher & Co.
Fustic
New York, 136 lgs. H. Kendall & Sons
Madder
Marseilles, 5 cks.
Myrabolams
Bombay, 7,717 bgs D. Sassoon & Co
,, 3,879 E. D. Sassoon & Co.
,, 2,869
Saffron
Valencia, 2 cs.
Sumac
Barcelona, 100 bgs.
Farina—
Fiume, 100 bgs
Glucose—
New York, 158 brls T. M. Duche & Sons
,, 1,245
Stettin, 308 cks. Brown, Geveke & Co.
Hamburg, 50
Dunkirk, 200 bgs.
Iodine—
Valparaiso, 77 brls. W. & J. Lockett
,, 50 A. Gibbs & Son
Iquique, 82 ,,
Lime—
Bahia, 2 bgs.
Manganese Ore—
Carrizal, qty.
Coquimbo, qty
Mineral White—
Bordeaux, 100 bgs R. J. Francis & Co
Trieste 100 Schroder & Co.
Ochre—
Bordeaux, 13 cks.
Alicante, 40 brls.
Marseilles, 12 79
Paint—
New York, 10 cks.
Paraffin Scale—
Philadelphia, 200 brls.
Phosphates—
Bona, 500 t.
Ghent, 250 bgs J. T. Fletcher & Co.
Pitch—
Amsterdam, 70 cks.
Potashes—
Stettin, 2 cks.
Hamburg, 10
Montreal, 25 brls.
Dunkirk, 2 cks.
Potash Salts—
Hamburg, 250 bgs.
Pyrites—
Huelva, 3,221 t. Matheson & Co.
Rosin—
Baltimore, 5,256 brls.
Rotterdam, 4 cks.
Saltpetre—
Hamburg, 50 brls.
Calcutta, 2,563 bgs. Ralli Bros.
Soap—
Bari, 244 cs.
Marseilles, 8
Antwerp, 5 cs. J. T Fletcher & Co.
Soapstone—
Bordeaux, 200 bgs. G. G. Blackwell
Trieste, 200 bls. W. Harrison & Co.
Soda—
Rotterdam, 1 ck.
Sodium Nitrate—
Pisagua, 7,542 bgs. Graham, Rowe & Co.
Iquique, 792
Tocopilla, 4,247
Starch—
Hamburg, 156 cs. 7 cks.
Antwerp, 46 pkgs.
New York, 549 bgs.
Rotterdam, 120 cs.
Stearine—
New York, 45 hds.
Antwerp, 155 bgs.
Talc—
Trieste, 100 bgs.
Tallow—
New York, 310 hds. 160 tcs.
Boston, 22
Havre, 72 bgs. Cunard S. S. Co., Ld.
Philadelphia, 950 tcs.
Tartar—
Bordeaux. 39 cks.
Ultramarine—
Hamburg, 5 cs.
Varnish—
Bombay, 1 dm.
New York, 18 brls.
White Lead—
Rotterdam, 46 cks.
Wood Pulp—
Gothenburg, 100 bls. F. E. Foulger
,, 204
Zinc Ashes—
New York, 5 hds.
Zinc Oxide—
Rotterdam, 50 cs.
Antwerp, 10 brls.
Zinc White—
Rotterdam, 150 cks. O. & H. Marcus

MANCHESTER.

Week ending June 16th.

Carbonic Acid—
Rotterdam 32 tubes.
Chemicals *(otherwise undescribed)*
Hamburg. 8 cks. 1 cs.
Rotterdam, 2
Colours—
Rotterdam, 31 cks. 62 cs. Simpson, Howden, & Co.
Treport, 5 2 cs.
Hamburg, 5
Rotterdam, 21 5 14 brls. 1 bx
Antwerp, 4 1 5
Dyestuffs—
Alizarine
Rotterdam, 10 brls. 2 cs.
Extracts
Rotterdam, 10 cks. Simpson, Howden, & Co.
Farina—
Hamburg, 100 bgs.
Glucose—
Hamburg, 51 bls.
Lead Acetate—
Rotterdam 28 cks. Simpson, Howden, & Co.
Potash—
Treport, 40 dms.
Hamburg, 17 cks. 20 cs.
Saltpetre—
Hamburg, 7 cks.
Starch—
Hamburg. 302 cs
Rotterdam, 270
Antwerp. 40
Tartaric Acid—
Rotterdam, 4 cks.
Ultramarine—
Hamburg, 16 cks
Waste Salt—
Hamburg, 120 bgs.
Zinc Oxide—
Rotterdam, 75 brls. Simpson, Howden, & Co.

HULL.

Week ending June 16th.

Alum—
Rotterdam, 39 cks. W. & C. L. Ringrose
Aniline Colours—
Amsterdam, 1 ck. W. & C. L. Ringrose
Asbestos—
Rotterdam, 5 bls. Hutchinson & Son
Barytes—
Rotterdam, 50 bgs. Hutchinson & Son
Antwerp, 70 9 cks. Bailey & Leetham
Rotterdam, 23 cks. J. W. Davis & Son
Bone Meal—
Kurrachee, 2,000 bgs.
Chemicals *(otherwise undes.)*
Christiania, 2 cks. Wilson, Sons, & Co., Ld.
,, 14 ,,
Bremen, 5 pks. Veltmann & Co.
Danzig, 11 W. & C. L. Ringrose
Antwerp, 321 Wilson, Sons, & Co., Ld.
Dunkirk, 34 17 cks. ,

Colours—
Rotterdam, 54 cks. 18 cs. Hutchinson & Son
Stettin, 12 Wilson, Sons, & Co., Ltd.
Rotterdam, 3 78 pks. W. & C. L. Ringrose
Antwerp, 10 Bailey & Leetham
Bremen, 2 Veltmann & Co.
" 20 Sissons Bros. & Co.
Danzig, 20 W. & C. L. Ringrose
Antwerp, 2 Wilson, Sons, & Co., Ltd.
" 2

Cream of Tartar—
Rotterdam, 6 cks. Hutchinson & Son

Dextrine—
Stettin, 50 bgs. Wilson Sons, & Co., Ld.

Dyestuffs—
Alizarine
Rotterdam, 4 brls. 29 cks. 14 cs. Hutchinson & Son
" 7 cks. W. & C. L. Ringrose
Logwood
Hamburg, 2,977 pcs. Wilson, Sons, & Co., Ltd.
Madder
Rotterdam, 2 cks. W. & C. L. Ringrose
Myrabolams
Bombay, 7,040 bgs.

Farina—
Harlingen, 1,120 bgs.
Stettin, 600 Wilson, Sons, & Co., Ltd.
Ghent, 160 cs. "
Hamburg, 50 "
" 50
" 100 Bailey & Leetham

Glucose—
Rotterdam, 30 bgs. Hutchinson & Son
Stettin, 950
New York, 650 brls.

Guano—
Christiansund, 150 kgs. Wilson Sons, & Co., Ld.

Lead Acetate—
Rouen, 7 cks. Hanger, Watson & Harris

Lime—
New York, 1,783 bgs. Wilson, Sons, & Co., Ld.

Limestone—
Antwerp, 2 crts Wilson, Sons, & Co., Ld.

Naphthaline—
Hamburg, 178 cks. Wilson, Sons, & Co., Ld

Ochre—
Amsterdam, 2 cks. W. & C. L. Ringrose

Paint—
Boston, 16 cs. Wilson, Sons, & Co., Ld.

Paraffin Wax—
Hamburg, 12 bgs Wilson, Sons, & Co, Ltd.

Phosphate—
Rotterdam, 20 dms. W. & C. L. Ringrose
Ghent, 81 t. 1,316 bgs.

Starch—
Rotterdam, 40 cs. Hutchinson & Son
Bremen, 1,075 Veltmann & Co.
Antwerp, 220 Wilson, Sons, & Co., Ld.

Stearine—
Christiania, 18 brls. Wilson, Sons, & Co., Ld.

Tar—
Amsterdam, 2 cks. Sissons Bros. & Co.

Tartaric Acid—
Rotterdam, 2 cks. Hutchinson & Son
" 12 W. & C. L. Ringrose

Ultramarine—
Rotterdam 8cks. Hutchinson & Son

White Lead—
Rotterdam, 53 cks. Hutchinson & Son

Wood Pulp—
Helsingfors, 337 bls. J. Good & Sons
" 252 Furley & Co.
Oporto, 200

Zinc Oxide—
Rotterdam, 25 cks. Sissons Bros. & Co.

GLASGOW.

Week ending June 21st.

Acids—
Rouen, 8 cks.

Alum—
Hamburg, 115 cks.

Aniline—
Rotterdam, 6 cs. J. Rankine & Son

Arachide Oil—
Rotterdam, 4 cks. J. Rankine & Son

Barium Sulphate—
Antwerp, 220 bgs. 85 cks.

Carbonic Acid—
Rotterdam, 15 tubes. J. Rankine & Son

Castor Oil—
Marseilles, 99 pkgs.
Antwerp, 57 cks.

Colours—
Rotterdam, 28 pkgs.
Hamburg, 40 cks. 3 cs.

Cream of Tartar—
Marseilles, 11 cks.

Dyestuffs—
Alizarine
Rotterdam, 5 brls. 22 cks. J. Rankine & Son
" 25 pkgs.
Extracts
Baltimore, 50 brls. M'Arthur, Scott & Co.
" 10
Logwood
Jamaica, 468 t. Wm. Connal & Co.
Belize, 460

Farina—
Delfszyl, 250 bgs.

Glucose—
New York, 300 brls.

Limestone—
Rouen, 2 crts.

Ochre—
Marseilles, 54 cks.
Rouen, 32

Oxalic Acid—
Rotterdam, 6 cks. J. Rankine & Son

Painters' Colours—
Antwerp, 13 cks.

Phosphate Rock—
Curacao, 440 t. A. Cross & Sons

Potashes—
Montreal, 15 brls.
Rotterdam, 30 cks. J. Rankine & Son
Hamburg, 35 cs.

Potassium Carbonate—
Hamburg, 39 cks.

Rosin—
New York, 1,551 brls.

Salt—
New York, 300 sks.

Saltpetre—
Hamburg, 12 cks. 100 bgs.

Soap—
New York, 48 brls.
Marseilles, 40 bxs.

Starch—
Amsterdam, 80 bxs.
New York, 825
Antwerp, 900 cs.

Sulphur—
Marseilles, 100 bgs.

Tallow—
New York, 20 tcs. 56 hhds.

Tartar—
Bordeaux, 18 cks.

Tartaric Acid—
Rotterdam, 10 cks. J. Rankine & Son

Ultramarine—
Antwerp, 5 cs.
Rotterdam, 5 J. Rankine & Son

Varnish—
New York, 16 brls.

Waste Salt—
Hamburg, 183 t. 1,770 bgs.

White Lead—
Rotterdam, 66 cks. 4 cs. J. Rankine & Son

Wood Pulp—
Drontheim, 1,400 bls.
Ronneby, 1,260 Salvesen & Co
Christiania, 816
Hamburg, 52

Wood Spirit—
Hamburg, 6 dms.

TYNE.

Week ending June 16th.

Barytes—
Rotterdam, 68 cks. Tyne S. S. Co.
Antwerp, 44 230 bgs. "

Colours—
Antwerp, 2 cks. Tyne S. S.
Limestone—
Antwerp, 4 crts Tyne S. S.
Mica—
Christiania, 5 cs.
Phosphate—
Antwerp, 250 t. Langda
Chmcl. Manure
" 1 bg. Tyne S. S.
Pitch—
Rotterdam, 58 cks. Tyne S. S.
Pyrites—
Huelva, 57½ t.
" 2,400 Scott
Soap—
Rotterdam, 2 cs. Tyne S. S.
Starch—
Rotterdam, 60 cs. Tyne S. S.
Sulphur Ore—
Pomaron, 990 t. 1 cs. Mason Barr
Tartaric Acid—
Rotterdam, 4 cks. Tyne S. S.
White Lead—
Antwerp, 3 brls. Tyne S. S.
Wood Pulp—
Gothenburg, 140 pkgs.
Christiania, 10 t.
Zinc Oxide—
Rotterdam, 25 cks. Tyne S. S.
Antwerp, 8 10 brls. "

GOOLE.

Week ending June 13th.

Alkali—
Calais, 10 cks.
Aniline Oil—
Rotterdam, 2 brls.
Aniline Salt—
Rotterdam, 2 brls.
Caoutchouc—
Boulogne, 1 ck.
Dyestuffs *(otherwise undescribed)*
Ghent, 23 cks.
Boulogne, 17 14 cs.
Extracts—
Ghent, 200 cks.
Potash—
Rotterdam, 20 cks.
Calais, 20 dms.
Saltpetre—
Rotterdam, 300 bgs.
Sulphur—
Boulogne, 1 ck.
Waste Salt—
Hamburg, 777 t.
Zinc Oxide—
Antwerp, 45 brls.

GRIMSBY.

Week ending June 16th.

Caoutchouc—
Hamburg, 5 cs.
Antwerp, 9
Chemicals *(otherwise undescribed)*
Hamburg, 21 cs.

EXPORTS OF CHEMICAL PRODUCTS

OF

THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending June 20th.

Acetic Acid—
Launceston, 11 c £13
Dunedin, 10 31
Melbourne, 20 cks. 74
Wellington, 5 10

Acids—
Madeira, 3 pkgs. £13

Acids and Disinfectants—
Mauritius, 4 cs. £12
Tamatave, 24 pkgs. 64

Alkali—
Rockhampton, 2 t. 4 c. £7
Mauritius, 1 1 9
Cape Town, 1 3 9
Fremantle, 9 17 41

Alum—
Salonica, 51 t. £28

Ammonia—
Algoa Bay, 3 cs. £69

Ammonium Carbonate—
Newcastle, 1 t. £38
Cape Town, 2 cs. 4
Paris, 3 10 c. 112

Ammonium Chloride—
Batoum, 1 t. £37
Amsterdam, 4 c. 8
Libau, 2 9 60
Constantinople, 5 9 187
Adelaide, 2 85

Ammonium Sulphate—
Antigua, 20 t. 8 c. £286
Hamburg, 101 4 1,400
Bremen, 100
Rouen, 30

Arsenic—
Barcelona, 3 c.
Melbourne, 1 t.
New York, 14 brls.

Barium Nitrate—
New York, 2 t.

Barium Sulphate—
Venice, 18 cks.

Sulphite of Lime—
Oporto, 13 c. £14
Boracic Acid—
Cape Town, 1 cs. £4
Borax—
Rotterdam, 5 cks. £13
Hamburg, 10 73
Cologne, 2 t. 4 c. 50
Harlingen, 5 12
Adelaide, 10 12
Batoum, 1 16 41
Auckland, 1 5 29
Bordeaux, 4 12
Calcium Phosphide—
Amsterdam, 5 cs. £25
Carbolic Acid—
Brussels, 2 cks. £7
Cape Town, 2 cs. 16
Rotterdam, 8 t. 8 c. 170
Melbourne, 20 dms. 6
Natal, 3 cks. 9
Antwerp, 8 cs. 9
New York, 10 6
Adelaide, 2 1
Carbonic Acid Gas—
Jersey, 10 tubes £28
M. Video, 17 c. 45
Caustic Soda—
St. Michaels, 3 t. 6 c. £34
Rockhampton, 10 92
Algoa Bay, 2 15 37
Mauritius, 3 10 41
Melbourne, 3 12 73
Fremantle, 5 1 46
Singapore, 1 1
Chemicals (*otherwise undescribed*)
Mauritius, 3 cs. £26
Algoa Bay, 1 8
B. Ayres, 25 107
St. Michaels, 12 pks. 51
Bombay, 7 77
Auckland, 4 44
Bordeaux, 14 60
Cape Town, 1 t. 9 c. 30 kgs. 71
Adelaide, 3 cs. 42
Melbourne, 57 cks. 16 cs. 17 pkgs. 40 dms. £346
Madras. 2 c. 2
Rotterdam, 7 t. 14 101
Brussels, 1 10 66
Chloroform—
Ghent, 1 cs. £15
Citric Acid—
Amsterdam, 6 kgs. £42
Shanghai, 1 cs. 9
Barcelona, 2 t. 3 c. 273
Hamburg, 1 135
St. Petersburg, 1 11 220
Dunedin, 1 10
B. Ayres, 10 70
Libau, 10 70
Rotterdam, 5 35
Lisbon, 13 cks. 94
Coal Products—
Aniline Dyes
Calcutta, 1 cs. £21
Aniline Oil
Dunkirk, 10 dms. £270
New York, 5 140
Aniline Salts
New York, 66 cks. £380
Anthracene
Rotterdam, 60 cks. £305
Benzol
Boulogne, 49 cks. 25 brls. 25 rns. £307
Calais, 43 294
Rotterdam, 23 dms. 20 pns. 400
Bitumen
Rotterdam, 37 cks. £70
Coal Tar Dyes
Dunedin, 3 pkgs. £65
Creosote
Dunkirk, 80 brls. £62
Hirbane Oil
Libau, 4 c. £14
Naphtha
Canterbury, 9 cs. £11
Naphthaline
Copenhagen, 10 cks. £18
Libau, 2 26
Hamburg, 9 69
Pitch
Antwerp. 155 t. £227
Constantinople, 200 brls. 70
Leith, 749 600 cks. 694
New York, 500 bgs. 105
Ryton, 1,378 t. 1,860
Auckland, 10 brls. 6
Pyridine
Libau, 1 ck. £7
Pyridine Bases
Amsterdam, 2 dms. £49
Tar
Berbice, 5 brls. £6
St. Johns, 30 rns. 50 24 hf. brls. 51
Boston, 850 425
Tar Oil
Paris, 30 cks. £75
Gothenburg, 250 178
Toluol
Rotterdam, 78 pns 25 rns. £892
Coal Products (*otherwise undes.*)
Toronto, 1 ck. £5
Copper Sulphate—
Galatz, 16 c. £12
Treport, 20 t. 12 c. 295
Bombay, 1 pk. 8
Batoum, 1 16
Mauritius, 4 3 118
Auckland, 1 16
Bordeaux, 45 720
Cream of Tartar—
Melbourne, 7 t. 1 c. £453
Newcastle, 15 53
Dunedin, 5 2 kgs. 24
Cape Town, 1 cs. 2 1 16
Adelaide, 50 159
Sydney, 1 65
Auckland, 10 31
Melbourne, 9 11 616
Canterbury, 10 33
Dextrine—
Melbourne, 1 t. £18
Disinfectants—
Cape Town, 90 dms. £65
Brisbane, 8 cs. 19
Wellington, 1 11
Auckland, 14 35
Hobart, 742 pks. 331
Madeira, 13 42
New York, 60 dms. 52
Singapore, 4 c. 10
Guano—
Antigua, 12 t. 17 c. £143
Magnesium Citrate—
Valencia, 13 c. £58
Barcelona, 17 cs. 123
Manure—
Mauritius, 229 t. 17 c. £1,866
Libau, 215 2 556
Riga, 151 17 388
Madeira, 60 4 602
Gr. Canary, 41 15 359
Natal, 1 3 32
Martinique, 530 3,990
Madeira, 5 45
Salobrena, 145 13 1,305
Metallic Sodium—
Hamburg, 1 t. £318
Nitric Acid—
Hong Kong, 5 cs. £15
Brisbane, 5 7
Oxalic Acid—
Trebizonde, 2 kgs. £8
St. Petersburg, 3 cks. 35
Odessa, 5 c. 10
Melbourne, 1 t. 7 116
Potash Crystals—
Brussels. 2 t. 13 c. 1 cs. £77
New York, 2 44
Potassium Bicarbonate—
Algoa Bay, 2 cs. £7
Potassium Bichromate—
Cape Town, 2 c. £5
Melbourne, 15 55
Potassium Bisulphite—
Oporto, 2 c. £15
Potassium Bromide—
Calcutta, 1 c. £12
Potassium Chlorate—
Cape Town, 2 cs. £7
Uddevalla, 3 t. 190
Bombay, 7 23
New York, 10 16 550
Potassium Citrate—
Lisbon. 1 cs £8
Potassium Cyanide—
Shanghai, 7 cks. £34
Saltpetre—
Algoa Bay, 1 t. 5 c. £20
Newcastle, 1 22
Alexandria, 2 3 45
St. Michaels, 1 25
Oporto, 3 14 77
Auckland, 5 6
Salts of Soda & Salts of Lime—
Toronto, 20 cks. 12 cs. £369
Sheep Dip—
Algoa Bay, 1,348 dms. £800
Sydney, 49 pks. 75
Hobart, 25 dms. 19
Cape Town, 100 6 t. 1 c. 223
Stettin, 31 cs. 90
Soda—
Cape Town, 10 c. £3
Soda Crystals—
Algoa Bay, 16 t. 5 c. £42
Madras, 5 2
Soda Salts—
New York, 12 cks. £70
Sodium Bicarbonate—
Townsville, 2 t. £13
Rockhampton, 5 c. 4
Barbadoes, 10 4
Trinidad, 2 4 17
Natal. 10 4
St. Petersburg, 10 kgs. 5
Auckland, 1 5 9
Sodium Bisulphite—
Melbourne, 17 c. £8
Sodium Sulphate—
Stockholm, 200 t. £250
Sodium Tartrate—
New York, 10 c. £40
Lisbon, 3 10
Strontium Nitrate—
Bombay, 4 c. £7
Sulphur—
Algoa Bay, 4 t. 9 c. 150kgs. £118
Madras, 15 84
Cape Town, 34 17 351
Sulphuric Acid—
Chinde, 18 c. £18
Penang, 1 t. 5 13
Tartaric Acid—
Newcastle, 13 c. £63
Melbourne, 2 t. 189
Cape Town, 1 6
Alexandria, 2 13
Adelaide, 11 10 cks 97
Sydney, 10 48
Dunedin, 3 14

LIVERPOOL.

Week ending June 20th.

Acetate of Lime—
Rio de Janeiro, 12 cs.
Alkali—
Callao, 5 t. 17 c. £23
Alum—
Sydney, 1 t. £6
Calcutta, 14 76
Fiume, 3 5 c. 15
Tunis, 1 14 8
Melbourne, 3 1 15
Smyrna, 2 10
M. Video, 1 10 8
Alum Cake—
Calcutta, 7 t. 6 c. £23
Aluminous Cake—
Calcutta, 17 t. 5 c. 2 q. £66
Ammonium Carbonate—
Genoa, 5 c. £9
Ammonium Chloride—
Lisbon, 1 t. £28
Philadelphia, 28 14 c. 1 q. 743
Genoa, 10 19
B. Ayres, 4 7
Barcelona, 1 26
Smyrna, 6 11
Ammonium Sulphate—
Rotterdam, 100 t. 18 c. 1 q £1,439
Pasages, 10 1 145
Sourabaya, 259 2 2 3,590
Samarang, 30 400
Gd. Canary, 6 10 95
Las Palmas, 35 498
Malaga, 51 2 727
Valencia, 174 3 2,476
Antwerp, 100 1,266
New York, 25 13 2 360
Nantes, 49 14 2 698
Asbestos—
Manila, 1 cs.
Singapore, 1
Mauritius, 2
Barytes—
Halifax, 2 cks.
Bleaching Powder—
Baltimore, 182 cks.
Boston, 549
New York, 318 75 brls. 10 pkgs.
Rouen, 15
Vigo, 6
Alexandria, 50
Gothenburg, 5 cs.
Halifax, 12
Montreal, 8
Newport News, 62
Philadelphia, 85
Rotterdam, 6
Borax—
E. London, 2 t. 10 c. £125
Rotterdam, 4 1 95
Nantes, 2 50
Montreal, 1 19 44
Hamburg, 15 5 310
Rouen, 19 411
Yokohama, 6 18 3 q. 151
Boracic Acid—
Hamburg, 4 c. 2 q. £7
Adelaide, 1 t. 34
Melbourne, 5 10 217
New York, 6 3 181
Calcium Chloride—
Melbourne, 5 t. 2 c. £12
Camphor—
Benguella, 1 brl.
Carbolic Acid—
Rouen, 6 t. 14 c. £108
Hamburg, 4 148
Montreal, 1 4 2 q. 68
New York, 6 4 358
Rotterdam. 17 10 883
Dunedin, N.Z., 3 59
Baltimore, 7 cs. 34
Hong Kong, 2 20
Barcelona, 13 3 55
Shanghai, 8 36
Carbon Bisulphide—
Sydney, 6 t. 12 c. £79
Castor Oil—
Salt Pond, 4 cs.
Caustic Potash—
Algoa Bay, 3 c. 1 q. £6
Pt. Elizabeth, 1 t. 13
Caustic Soda—
Boston, 225 dms. 55 brls.
Callao, 70
Chicago, 281
Genoa, 45
Hamburg, 100 4
Hong Kong, 14
Leghorn, 31
Maceio, 2
Melbourne, 88
Montreal, 80
New York, 500 100
Odessa, 270
Pernambuco, 80
Philadelphia, 35
Porto Alegre, 20
Rio de Janeiro, 70
Rouen, 74
Toronto, 35
Valparaiso, 205
Vera Cruz, 367
Adelaide, 60 10 bxs 3 pkgs.
Alexandria, 15
Algoa Bay, 15 cs.
Barcelona, 100
Bari, 42
Calcutta, 20
Cincinatti, 54
Fiume, 111
Halifax, 30
Hiogo, 3
Lisbon, 18
Madeira, 10
Malta, 7
Milwaukee, 100
Naples. 32
Newport News, 25
Oporto, 28
Pasages. 23
Puerto Cabello, 18
St. John's, N.B., 30
Samarang, 25
Shanghai, 4
Singapore, 5
Tunis, 16 cks.
Yokohama, 100
Chemicals (*otherwise undescribed*)
Naples, 3 t. 9 c. 3 q £124
Alexandria, 1 10 54
Genoa, 2 5 80
Iloilo, 2 6
Philadelphia, 13 399
China Clay—
Genoa, 9 t. 15 c.
Lisbon, 2 5
Bombay, 15
Boston, 472
Calcutta, 5
Naples, 40 cks.
New York, 100
Vera Cruz, 5
Chromium Trioxide—
Hamburg, 1 t. £63
New York, 1 64
Citric Acid—
Manila, 2 c. £19
Citrochloric Acid—
Alexandria, 1 cs. £6

Coal Products—
Alizarine Oil
Lisbon, 1 ck.
Aniline Colours
Bombay, 4 kgs
Constantinople, 2 cs.
Montreal. 1
Trebizonde, 2
Aniline Oil
Genoa, 3 dms.
Creosote Oil
Boca, 29 brls.
Pitch
Antwerp, 183 t. 10 c.
Ibrail, 40 brls.
Marseilles, 1,833 13
Rouen, 2 cks
Tar
Galatz, 65 brls.
Sierra Leone, 20 hf-brls.
Tar Oil
Calcutta, 5 cks.

Copperas—
Caldera, 10 t. 5 c. £18

Copper Sulphate—
Rouen, 111 t. 19 c £1 705
Odessa. 2 30
Venice 50 14 3 722
Leghorn, 45 4 1 657
Naples, 25 6 360
Bordeaux, 46 3 677
Nantes, 99 9 1,854
Oporto, 18 1 2 257
Rotterdam, 18 3 13
Lisbon, 22 4 3 329
Genoa, 16 2 224
Marseilles, 240 17 3,772
Brindisi. 2 8 3 36
Ancona, 7 17 1 118
Newfairwater, 5 2 1 75
Algiers, 5 2 80
Tampico, 25 362

Disinfectants—
New York, 1 t. 19 c. 1 q. £20

Iron Oxide—
Lisbon, 11 c. £5

Iron Salts—
New York, 1 t. £10

Lime—
Acera, 7 t. 10 c. £7
Lagos, 6 4 2 q. 6
Opobo, 3 cks.

Magnesia—
Constantinople, 2 cs.

Magnesium Citrate—
Manila, 2 cs.

Magnesium Sulphate—
Rio de Janeiro, 99 kgs.

Manganese—
Antwerp, 11 t. 14 c.

Manure—
Teneriffe, 5 t. 2 q. £37
Madeira, 6 32
St. Nazaire, 150 3 c. 760

Paint—
Barcelona, 16 dms.
Boston, 1 ck.
Callao, 12
Cape Town, 4
Curacao, 25 kgs.
Durban. 6
Fiume, 8
Iloilo, 1 cs. 10 brls.
Lisbon, 37 pkgs.
Loanda, 300
Manila, 12 6
Matadi, 4
M. Video 40 3
Mossamedes. 17
New Calabar, 10
Newport News, 150 40
Rangoon, 6
Sierra Leone, 2 77
Tripoli, 20
Amsterdam, 6 6
Bacana, 20
Cienfuegos, 4
E. London, 1 cs
Gibraltar, 4 32
Gd. Bassa, 17
Havana, 6 25 20 10 brls.
Philadelphia, 218
Rotterdam, 12 13
St. John's, N'fd., 6 2 cs.
Trinidad, 1 3 1
Valparaiso, 84

Painters' Colours—
Barranquilla, 11 cs.
Bombay, 268 kgs.
B Ayres, 100 40 brls.
Calcutta, 16 2
Callao, 175 11 34 cks.
Cienfuegos, 1
Constantinople, 400
Havana, 2
La Guayra. 23
La Libertad, 3
Manaos, 10 50 1
Mauritius, 17
New York, 150 7
Para, 149 27
Rio de Janeiro 15 3 59
Toronto, 6 hds. 11 2 1 1
Boston, 105
Forcados, 12
Ibrail, 40
Lisbon, 34
Mayaquez, 3
Montreal, 69
Oporto, 134
Piræus, 52 dms.
Pisagua, 20
Pt. Natal, 25
Rosario, 42 1 bx.
Santander, 25
Zante, 4

Phosphorus—
Yokohama, 2 cs. £20
Hiogo, 36 360

Potash—
Manila, 2 c. £12
Halifax, 7 3 q. 12
Montreal, 2 6

Potassium Bichromate—
Vera Cruz, 12 c. 2 q. £24

Potassium Carbonate—
New York, 18 t. 19 c. £360

Potassium Chlorate—
Calcutta, 5 c. £14
Odessa, 10 30
Philadelphia, 1 t 5 72
Catania, 6 17
New York, 37 10 2,203
Boston, 25 1,440
Hiogo, 2 10 141
B. Ayres, 2 10 141
Leghorn, 1 64
Corunna, 10 32

Potassium Prussiate—
Oporto, 2 c. £7
Yokohama, 11 1 q. 50

Rosin Oil—
Antwerp, 50 cks.

Salt—
Akassa. 400 t.
Algoa Bay, 8 10 c.
Antwerp, 150
Boston, 120
Brisbane, 73 10
Calcutta, 2,852
Cameroons, 97 15
C. C. Castle, 12 10
Ghent, 200
Gothenburg, 22 3
Gr. Bassa, 10
Gr. Bassam, 13
Iceland, 82
Manaos, 14 5
Melbourne, 45
Montreal, 633 10
Noqui, 93 15
Rio de Janeiro, 2 6
Rotterdam, 220
St. John's, Nfld., 15
Sinoe, 7 10
Winnebah, 5
Wyburg, 499
Adelaide, 25.
Belize. 10
Halifax, 200
Lagos, 201
Landana, 5 16
Miramichi, 300
M. Video. 5 11 c.
Newcastle, N.S.W., 410 t.
Newport News, 400
Pillan, 425
Rosario, 8 19

Saltcake—
Wellington, N.Z., 1 t. 19 c. £4
Antwerp, 100 121
Leghorn. 10 26
New York, 75 7 75
Genoa, 103 9 79

Saltpetre—
Rio de Janeiro, 2 t. 2 c. 2 q. £50

Sheep Dip—
Baltimore, 2 t. 5 c. 3 q. £50

Soap—
Alexandria, 3 cs.
Algoa Bay, 1,230 bxs.
Amsterdam, 6
Axim, 40
Bayin, 17
Bombay, 48
Bonda, 500
Brass, 200
Callao, 12
Cape Town, 2,106
Dominica, 30
Durban, 50
E. London, 1,211
Gibraltar, 250 1 brl.
Gr. Canary, 470
Guadeloupes, 2 000
Halifax, 200
Kurrachee, 2
Lagos, 16
Lisbon 1
Macassar, 500
Malta, 30
Menada 1,000
Montreal, 1 ck.
New York, 103 61 13
Pt. Elizabeth, 3,171
Pt. Natal, 210
Quebec, 1
Rangoon, 500
Rosario, 2
St. John's, N B., 200
St. John's, Nfld., 103
St. Kitts, 200
St. Lucia, 115
Shanghai, 3,843 3
Sydney, 143
Ternate. 500
Victoria, W.C.A., 1
Abonnema, 250
Algoa Bay, 75
Antigua, 50
Antwerp, 20
Bakana, 350
Baltimore, 1
Barbadoes, 500
Belize, 600
Brussels, 600
Calcutta, 2
Constantinople. 20 1
Coronel, 20
Curacao, 50
Genoa, 100
Gothenburg, 30
Hong Kong, 21
Jersey, 68 1 cht.
Kingston, Jam., 2
Las Palmas, 980
Mossel Bay, 100
Ottawa, 100
Paranagua, 50
Rio de Janeiro, 10
Rotterdam, 410
Teneriffe, 300
Trinidad, 300 1
Christiania, 100

Soda—
Tarragona, 20 cks. 20 dms.

Soda Alkali—
Alicante, 35 brls.
Buffalo, 60
Melbourne, 40
Toronto, 70

Soda Ash—
Adelaide, 183 cks.
Baltimore, 140 596 bgs.
Boston, 36 188 142 tcs.
B. Ayres, 169 100 brls.
Calcutta, 75
Callao 50
Copenhagen, 15
Lisbon, 10
Maranham, 60 20 brls.
Melbourne, 34
New York, 108 5,894 108 tcs.
Oporto. 5
Philadelphia. 172 400 125
Puerto Cabello, 8
Riga, 28
Rio de Janeiro, 765 60 brls.
Syra, 20
Antwerp, 8 120
Chicago, 250
Genoa, 21 200
Halifax, 5
Hamburg, 350
Ibrail, 30
Montreal, 81
Newport News, 480
Pernambuco, 22
Rotterdam, 21 50
San Pedro, 19
Sourabaya, 24
Sydney, 331
Yokohama, 200

Soda Crystals—
Boston, 140 brls.
B. Ayres. 100 67 kgs.
Constantinople, 150
Iquique, 100
Malta, 50 120 cks
M. Video, 67 60
Philadelphia, 501 420
Piræus, 20
Halifax, 25
Malaga, 17
Montreal. 100 10
New Glasgow, 5 25
Sourabaya, 200
Valparaiso, 200

Sodium Biborate—
B. Ayres, 50 cs.
Genoa, 25
Hamburg, 30 cks.
Montreal, 74 brls.

Sodium Bicarbonate—
Adelaide, 104 kgs. 6
Ancona, 50
Bari, 10 6 cks.
Bombay, 750
Brisbane, 100
B. Ayres, 43
Cairo, 10
Calcutta, 250
Catania, 25
Christiania, 40
Constantinople, 20 1
Copenhagen, 35 5
Dunkirk, 87
Hamburg, 65
Havre, 70 5
Melbourne, 550
Mexico, 50 10
Newcastle, 40
Rouen, 50
Alicante, 100 50
Amsterdam. 70
Genoa, 75 47
Halifax, 100.
Jersey, 20
Malaga, 50
Marseilles, 65
Naples, 150
New Glasgow, 200
Odessa, 100
St. John's, Nfld, 30
Salonica, 10
Smyrna, 100
Stettin, 20
Sydney. 400
Tampico, 10
Valencia, 105
Venice, 30

Sodium Bichromate—
Rouen, 14 cks.
Lisbon, 4

Sodium Bisulphite—
Sydney, 200 dms.

Sodium Chlorate—
Genoa. 20 kgs.
Quebec. 2 cks.

Sodium Hypophosphite—
Valparaiso, 3 cs.

Sodium Silicate—
Seville, 50 cks
Shanghai, 16

Sodium Sulphate—
Antwerp, 3 brls.

Sodium Sulphite—
Montreal, 2 cks.

Sulphur—
Calcutta, 11 t. 2 c.
Boston, 200 8

Superphosphate—
Gr. Canary, 2 t. 10 c.
Las Palmas, 50
Barcelona, 15

Tartaric Acid—
Manila, 2 c. 19

Turpentine—
Colon. 25 dms.
Old Calabar, 20

Varnish—
Barcelona. 13 brls. 12 cks.
Cape Town, 2 cs.
Madras. 5
M. Video, 25 dms.
Odessa, 6
Bombay, 4 1
Genoa, 2 1
Trieste, 3 brls.

MANCHESTE

Week ending June 21st.

Alum—
Beyrout, 10 brls.

Ammonium Sulphate—
Antwerp, 426 bgs.

Chemicals (*otherwise undesc*
Antwerp, 12 cks.
Rotterdam, 10

rs' Colours—
p, 1 ck.
p, 169 t.
20 cs.
lkali—
1 ck.
—
p, 1 brl.
h—
dam, 1 brl.

HULL.

ek ending June 16th.

gfors, 10 cks.
ium Sulphate—
rp, 901 bgs.
k, 100
286
682
dam, 897
—
dam, 35 dms.
ing Powder—
75 cks.
159
c Soda—
gfors, 5 cks
75 dms.
125
41
g, 11 cks.
cals *(otherwise undescribed)*
dam, 3 cks.
rp, 20
20
n, 20
hagen, 14
iania, 30 25 cs.
heim, 4 pkgs.
nburg, 7 120
12 38 1
urg, 12 247 12
gfors, 17
sberg, 4 20
oping, 11
36 420 pks.
ersburg, 100 66
4 200
9
seed Oil—
rdam, 14 c.
rp, 200
n, 400
10
iansand, 6
iania, 1
nburg, 136
urg, 967
sberg, 200
50
dam, 912
affs *(otherwise undescribed)*
n, 3 cs. 1 ck.
urg, 1
8
dam, 58
60 bls.
d Oil—
166 c.
iansand, 52
iania, 900
heim, 199
urg, 6
dam, 151
ger, 34
od—
rp, 70 bls.
e—
p, 113 t.
250
al White—
nburg. 10 bls.
urg, 100
—
1 cs.
rs' Colours—
rdam, 3 cks.
rp, 35 2 cs.
n, 12 5
hagen, 44 5
iansand, 40 kgs.
iansund, 28 pkgs.
iania, 17 120
irk, 2 dms.
heim, 132
nburg, 21 3
7 1 14
Hamburg, 17
Marseilles, 25
New York, 240
Naples, 5 3
Norrkoping, 20
Rouen, 12
Rotterdam, 8 2 1
Stavanger, 17
St. Petersburg, 150 1
Stettin, 33
Slag—
Abo, 25 t.
Stettin, 275
Soap—
Christiania, 2 cs.
Tallow—
Helsingfors, 80 cks.
Rotterdam, 59
Tar—
Amsterdam, 8 cks.
Bergen, 4
Copenhagen, 10 116 cs.
Dunkirk, 25
Hamburg, 26
Helsingfors, 315
Rotterdam, 8
Stettin, 2
Wasa, 55
Turpentine—
Helsingfors, 10 cks.
Varnish—
Amsterdam, 8 cks.
Antwerp, 10
Bergen, 2
Copenhagen, 1 1 dm. 1 cs.
Gothenburg, 1
Genoa, 5 3 2
Helsingfors, 9
Leghorn, 1
Marseilles, 1 5
Naples, 4
Wyburg, 2

GLASGOW.

Week ending June 21st.

Alkali—
Dunedin, 4 t. 10¼ c. £38
Alum—
Adelaide, 3 t. 14¼ c. £21
Bleaching Powder—
Melbourne, 26 t. 19¼ c £283
Cape Colony, 2 2 21
Borax—
Christiania, 2 brls. £5
Melbourne, 2 t. 51
Cape Colony, 7 ½ c. £225. 12s.
Dunedin, 1 24
Caoutchouc—
Rangoon, £99
Castor Oil—
Adelaide, 1 t. 3 c £22 10s.
Caustic Soda—
Adelaide, 5 t. 10 c. £50
Dunedin, 4 2 36
Coal Products—
Aniline Colours
Dunedin, 7¼ c. £55
Alizarine Oil
Oporto, 1 t. 13¾ c. £26
Creosote Oil
Christiania, 180 brls. £79
Pitch
New York, 35 t. 10 c. £47
Amsterdam, 251 351
Bombay, 14 9 £40. 12s.
Oporto, 201 ¼ 275. 12
Hamburg, 10 cks. £5
Montreal, 12 t. 6 c. 20
Christiania, 65 cks. 12
Tar
Stockholm, 25 brls. £12
Christiania, 1 8s.
Dyestuffs—
Cutch
New York 72 t. £1,584
Extracts
Montreal. 2 t. 5 c. £63
Logwood
Dunedin, 25 t. 1¾ c. £290
Oporto, 10 9½ 98
Linseed Oil—
Adelaide, 4 t. 18¼ c. £102
Cape Colony, 1 6 31
Dunedin, 10 3 261
Litharge—
Montreal, 9 t. 7 c. £102
Magnesium Sulphate—
Oporto, 5 t. 13¾ c. £21
Manganese—
Trieste, 10 t. 7 c. £95
Manure—
Dunedin, 150 £900
Nitrate of Lead—
Montreal, 3 t 18½ c £68
Paint—
M. Video, 2 t. 16¾ c. £32. 10s.
Argentine Republic, 12 t. 15½ c. £112
Melbourne 2 t. 5½ c. 49
Cape Colony, 41
Dunedin, 3 71
Malta, 3 13 55
Painters' Colours—
Rangoon, 3 t. 14½ c. £53
Rotterdam, 2 dms. 3 cks. 21
Adelaide, 1 t. 15½ c. 35
Dunedin, 415
Straits, 15 19½ 177
Hong Kong, 63
" 2 17½ 39
Paraffin Wax—
Nantes, 7 t. 8¼ c. £210
Cape Colony, 4 13¼ 138
Dunedin, 11 10¾ 303
Trieste, 22 12¼ 650
Potash—
Rotterdam, 1 ck. £20
Potash Salts—
Cape Colony, 26 t. 3¼ c. £250
Potassium Bichromate—
Antwerp 5 t. 9 ½c. £217
Genoa, 4 2 160
Montreal. 5 17½ 234
Potassium Prussiate—
Montreal, 10¾ c. £49
Rosin Oil—
Rotterdam, 24 brls. £44
Montreal, 2 t. 12 c. 23
Stockholm, 150 brls. 268
Salt Cake—
Melbourne, 25 t. 2 c. £50
Sodium Bicarbonate
Cape Colony, 3 t. 15½ c. £40. 10s.
Sodium Bichromate—
Genoa, 1 t. 8 c. £48
Nantes, 5 7¾ 179
Spent Oxide—
Danzig, 297 t. 8 c. £149
Sulphur—
Dunedin, 3 t. £23. 18s.
Sulphuric Acid—
Rangoon, £246
Superphosphate—
Dunedin, 100 t. £600
Talc—
New York, £750
Tallow—
Christiania, 2 brls. £3
Rotterdam, 6 t. 4 c. 242
Varnish—
Christiania, 3 brls. £3
White Lead—
Cape Colony, 4 t. 6¼ c. £83
Dunedin, 21 4½ 429

TYNE.

Week ending June 16th.

Alkali—
Antwerp, 15 t. 5 c,
Hamburg, 1 2
Amsterdam, 74 13
Christiania, 6 9
Drammen, 55 11
Rotterdam, 9 4
Ammonium Sulphate—
Hamburg, 10 t. 2 c.
Antimony—
Hamburg, 3 t.
Copenhagen, 6 c.
Barytes Carbonate—
Hamburg, 100 t.
Benzoline—
Bergen, 3 c.
Blanc Fixe—
Copenhagen, 1 t. 3 c.
Bleaching Powder—
Antwerp, 33 t. 2 c.
Hamburg, 2
Amsterdam, 34
Lisbon, 23 4
Odense, 15 2
Copenhagen, 4 18
Libau, 5 1
Rotterdam, 31 11
Drontheim, 9 19
Odessa, 22 11
Gothenburg, 5 3
Carbolic Acid—
Antwerp, 2 glns.
Caustic Soda—
Antwerp. 4 t. 18 c.
Hamburg, 66
Amsterdam, 21 5
Christiania, 2 18
Gothenburg, 6
Copenhagen, 3 16
Rotterdam, 1
Iron Oxide—
Hamburg, 5 c.
Ceara, 10 t. 3
Litharge—
Antwerp, 6 c.
Hamburg, 1 t. 9
Magnesia—
Antwerp, 1 c.
Hamburg, 11
Ochre—
Christiania, 3 t. 9 c.
Paint—
Antwerp, 1 t. 1 c.
Hamburg, 9
Bergen, 1 11
Copenhagen, 1 10
Slag—
Rotterdam, 832 t.
Soda—
Amsterdam, 10 t. 15 c.
Christiania, 10 1
Laurvig, 5 4
Vardoe, 2 3
Rotterdam, 25 10
Bergen, 3 4
Soda Ash—
Antwerp, 21 t 1 c.
Hamburg, 5
Sulphur—
Antwerp, 15 t. 1 c.
Drammen, 150
Rotterdam, 25
Hamburg, 25
Gothenburg, 15
Tar—
Vardoe, 9 t. 17 c.
Memel. 1
Varnish—
Vardoe, 9 c.
White Lead—
Lisbon, 2 t. 6 c.
Copenhagen, 1 9
Bergen, 1 5
Stavanger, 1 9
Zinc Ashes—
Antwerp, 3 t. 12 c.

GOOLE.

Week ending June 13th.

Chemicals *(otherwise undescribed)*
Boulogne, 3 cs. 2 cks. 60 pkgs.
Hamburg, 10 dms.
Coal Products *(otherwise undescribed)—*
Antwerp, 50 cks.
Boulogne, 5 1 cs.
Ghent, 48
Hamburg, 2 cs. 2 pkgs.
Rotterdam, 43
Dyestuffs *(otherwise undescribed)*
Ghent, 4 cks.
Logwood—
Antwerp, 5 t.
Manure—
Boulogne, 102 bgs.
Dunkirk. 90
Rotterdam, 75
Pitch—
Antwerp, 1,043 t.

GRIMSBY.

Week ending June 16th.

Chemicals *(otherwise undescribed)*
Hamburg, 6 cs.
Coal Products *(otherwise undes.)—*
Dieppe, 1 cs. 91 cks. 27 brls.
Dyestuffs *(otherwise undescribed)*
Dieppe, 1 ck.
Pitch—
Antwerp, 70 t.
Salt—
Antwerp, 200 t.

PRICES CURRENT.

WEDNESDAY, June 27th, 1894.

Prepared by Messrs. Higginbottom and Co., 116, Portland Street, Manchester.

The values stated are F.O.R. at maker's works, or at usual ports of shipment in U.K. The price in different localities may vary.

	£	s.	d.
Acids:—			
Acetic, 25 °/₀ and 40 °/₀ .. .. per cwt.	6/6 & 10/6		
,, Glacial .. .. ,,	50/-		
Arsenic S.G., 2000° .. .. ,,	0	14	6
Fluoric .. .. per lb.	0	0	3¾
Muriatic (Tower Salts), 30° Tw. .. .. .. per bottle	0	0	10
,, (Cylinder), 30° Tw. .. .. ,,	0	3	0
Nitric 80° Tw. .. .. per lb.	0	0	1¾
Nitrous .. .. ,,	0	0	1¾
Oxalic .. .. nett ,,	0	0	3¾
Phosphoric, 1750° .. .. ,,	0	1	0
Picric .. .. ,,	0	1	0
Sulphuric (fuming 50 °/₀) .. .. per ton	15	10	0
,, (monohydrate) .. .. ,,	5	10	0
,, (Pyrites, 168°) .. .. ,,	3	0	0
,, ,, 150° .. .. ,,	1	5	0
,, (free from arsenic, 145°) .. .. .. ,,	1	6	0
Sulphurous (solution) S.G. 1025 .. .. .. ,,	3	0	0
Tannic (pure) .. .. per lb.	0	1	1
Tartaric .. .. ,,	0	0	11
Arsenic, white powdered .. .. nett per ton	14	5	0
Alum (loose lump) .. .. ,,	5	2	6
Alumina Sulphate (pure) .. .. ,,	5	0	0
Aluminoferric .. .. ,,	2	7	6
Aluminium .. .. per lb.	0	3	0
Ammonia, Anhydrous .. .. ,,	0	1	3
,, ·880=28° B. .. .. per lb.	0	0	3
,, =24° B. .. .. ,,	0	0	2¼
,, Carbonate .. .. nett ,,	0	0	3¾
,, Muriate .. .. per ton	24	10	0
,, ,, (sal-ammoniac) 1st & 2nd .. per cwt.	39/- & 37/-		
,, Nitrate .. .. per ton	44	0	0
,, Phosphate .. .. per lb.	0	0	10½
,, Sulphate (grey) London .. .. .. per ton	14	0	0
,, ,, (grey) Hull .. .. ,,	13	17	6
Aniline Oil (pure) .. .. per lb.	0	0	5½
Aniline Salt ,, ... ,,	0	0	5¼
Antimony .. .. per ton	32	10	0
,, (tartar emetic) .. .. per lb.	0	0	9½
,, (golden sulphide) .. .. ,,	0	0	10
Barium Chloride .. .. per ton	6	10	0
,, Carbonate (native) .. .. ,,	3	10	0
,, Sulphate (native levigated) .. .. .. ,,	45/- to 75/-		
Bleaching Powder, 35 % .. .. nett ,,	7	10	0
,, Liquor, 7 % .. .. ,,	3	10	0
Bisulphide of Carbon .. .. ,,	11	15	0
Chromium Acetate (crystal) .. .. per lb.	0	0	6
Calcium Chloride .. .. per ton	2	5	0
China Clay (at Runcorn) in bulk .. .. .. ,,	17/6 to 30/-		
Coal Tar Products and Dyes:—			
Alizarine (artificial) 20% .. .. .. net per lb.	0	0	8
Magenta .. .. ,,	0	3	9
Anthracene, 30% A, f.o.b. London .. per unit per cwt.	0	1	1
Benzol, 90 % nominal .. .. .. per gallon	0	1	0
,, 50/90 ,, ... ,,	0	1	3
Carbolic Acid (crystallised 40°) .. .. .. per lb.	0	0	6¼
,, (crude 60°) .. .. per gallon	0	1	9
Creosote (ordinary) .. .. ,,	0	0	1½
,, (filtered for Lucigen light) .. .. ,,	0	0	2½
Crude Naphtha 30% @ 120° C. .. .. .. ,,	0	0	5¾
Grease Oils, 22° Tw. .. .. per ton	2	10	0
Pitch, f.o.b. Liverpool or Garston .. .. .. ,,	1	11	6
Solvent Naphtha, 90 % at 160° .. .. .. per gallon	0	1	3½
Lucigen" and "Wells Oils .. .. ,,	0	0	2½
Copper .. .. per ton	38	0	0
,, Sulphate .. .. ,,	15	0	0
,, Oxide (copper scales) .. .. ,,	39	5	0
Glycerine (crude) .. .. ,,	15	0	0
,, (distilled S.G. 1250°) .. .. ,,	41	0	0
Iodine .. .. nett, per oz.	0	0	9
Iron Sulphate (copperas) .. .. per ton	1	4	0
,, Sulphide (antimony slag) .. .. ,,	2	0	0
Lead (sheet) for cash .. .. ,,	10	5	0
,, Litharge Flake (ex ship) .. .. ,,	13	0	0
,, Acetate (white ,,) .. .. ,,	26	0	0
,, ,, brown ,,) .. .. ,,	16	0	0
,, Carbonate (white lead) pure .. .. .. ,,	20	0	0
,, Nitrate .. .. ,,	19	10	0

	£	s.	d.
Lime, Acetate (brown) .. .. per ton	5	17	6
,, ,, (grey) .. .. ,,	10	5	0
Magnesium (ribbon and wire) .. .. per oz.	0	2	3
,, Chloride (ex ship) .. .. per ton	2	10	0
,, Carbonate .. .. per cwt.	1	17	6
,, Hydrate .. .. per ton.	17	0	0
,, Sulphate (Epsom Salts) .. .. .. per ton	3	0	0
Manganese, Sulphate .. .. ,,	17	15	0
,, Borate .. .. per cwt.	2	12	6
,, Ore, 70 % .. .. per ton	4	5	0
Methylated Spirit, 61° O.P. .. .. per gallon	0	2	2
Naphtha (Wood), Solvent .. .. ,,	0	3	7
,, ,, Miscible, 60° O.P .. .. .. ,,	0	4	3
Oils:—			
Cotton-seed .. .. per ton	21	5	0
Linseed .. .. ,,	22	10	0
Petroleum, American .. .. per gallon	0	0	5¼
Stearine .. .. per ton	28	0	0
Phosphorus (yellow) .. .. per lb.	0	2	2
,, (red) .. .. ,,	0	2	9
Potassium (metal) .. .. per oz.	0	3	7
,, Bichromate .. .. nett per lb.	0	0	4½
,, Carbonate, 90% (ex ship) .. .. .. per ton	16	15	0
,, Chlorate .. .. per lb.	0	0	7¼
,, Cyanide, 98% .. .. ,,	0	2	0
,, Hydrate (Caustic Potash) 80/85 % .. per ton	21	15	0
,, ,, (Caustic Potash) 75/80 % .. ,,	20	0	0
,, ,, (Caustic Potash) 70/75 % .. ,,	19	10	0
,, Nitrate (refined) .. .. per cwt.	1	2	6
,, Permanganate .. .. per cwt.	3	2	6
,, Prussiate Yellow .. .. per lb.	0	0	10½
,, Sulphate, 90 % (ex ship) .. .. .. per ton	9	15	0
,, Muriate, 80 % (do.) .. .. .. ,,	8	7	6
Silver (metal) .. .. per oz.	0	2	4½
,, Nitrate .. .. ,,	0	2	10
Sodium (metal) .. .. per lb.	0	3	0
,, Carb. (refined Soda-ash) 48 % .. nett per ton	4	17	6
,, ,, (Caustic Soda-ash) 48 % . ,, ,,	4	2	6
,, ,, (Carb. Soda-ash) 48% .. .. ,, ,,	4	0	0
,, ,, (Alkali) 58 % .. .. .. ,, ,,	3	15	0
,, ,, (Soda Crystals) .. .. .. ,, ,,	2	10	0
,, Acetate (ex-ship) .. .. ,,	14	15	0
,, Arseniate, 45 % .. .. ,,	11	0	0
,, Chlorate .. .. per lb.	0	0	8¼
,, Borate (Borax) .. .. net, per ton.	22	0	0
,, Bichromate .. .. ,, per lb.	0	0	3¼
,, Hydrate (77 % Caustic Soda) (f.o.b.) net pr. ton	10	15	0
,, ,, (74 % Caustic Soda) ,, ,, ,,	9	15	0
,, ,, (70 % Caustic Soda) ,, ,, ,,	8	15	0
,, ,, (60 % Caustic Soda) .. ,, ,,	7	15	0
,, ,, (60 % Caustic Soda, cream) (f.o.b.) ,,	7	12	6
,, Bicarbonate .. .. ,,	5	12	6
,, Hyposulphite .. .. ,,	5	10	0
,, Manganate, 30% .. .. ,,	16	0	0
,, Nitrate (95 %) ex-ship Liverpool .. .. per cwt.	0	9	6
,, Nitrite, 98 % .. .. per ton	29	10	0
,, Phosphate .. .. ,,	15	0	0
,, Silicate (glass) .. .. per ton	5	7	6
,, ,, (liquid, 100° Tw.) .. .. .. ,,	4	5	0
,, Stannate, 40 % .. .. per cwt.	3	0	0
,, Sulphate (Salt-cake) .. .. per ton.	0	17	6
,, ,, (Glauber's Salts) .. .. ,,	1	5	0
,, Sulphide .. .. ,,	8	10	0
,, Sulphite .. .. ,,	5	12	6
Strontium Hydrate, 100% .. .. ,,	8	10	0
Sulphocyanide Ammonium, 95 % .. .. per lb.	0	0	7¼
,, Barium, 95 % .. .. ,,	0	0	5
,, Potassium .. .. ,,	0	0	7½
Sulphur (Flowers) .. .. per ton.	7	10	0
,, (Roll Brimstone) .. .. ,,	5	12	6
,, Brimstone: Best Quality .. .. .. ,,	3	15	0
Superphosphate of Lime (26%) .. .. ,,	2	7	6
Tallow .. .. ,,	25	0	0
Tin Crystals .. .. per lb.	0	0	6
English Ingots .. .. ,,	72	10	0
Zinc (Spelter) .. .. per ton	15	15	0
,, Chloride (solution, 96° Tw.) .. .. .. ,,	5	10	0

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W. H. PEACOCK,

Chemical Engineer & Millwright,

BRADFORD, MANCHESTER.

Tenders.

THE VESTRY OF THE PARISH OF ST. MARY, BATTERSEA.

THE Vestry of the Parish of St. Mary, Battersea, are prepared to receive Tenders for the supply of DISINFECTANTS for One, Two, or Three Years (at the option of the Vestry), from the 26th March next.

The Specification and Form of Tender may be obtained of the Surveyor to the Vestry, Mr. J. T. PILDITCH, at his office, Bridge Road West, Battersea, between the hours of 10 a.m. and 4 p.m. (Saturdays, between 10 a.m. and 1 p.m.) and no Tender will be considered, unless the same be made upon the official form.

Tenders, sealed and marked on the outside "Tender for Disinfectants," must be delivered to me, at the Vestry Offices, before one o'clock on Wednesday, the 14th February, 1894, and must contain the names and addresses of two responsible persons who are willing to join the contractor in a contract for the due execution of the same.

The Contract will be prepared by and at the expense of the Vestry.

Persons tendering, will be required to declare in their tender that they pay the Trades' Union rate of Wages.

The Vestry do not bind themselves to accept the lowest or any tender.

By order of the Vestry of the Parish of St. Mary, Battersea.

W. MARCUS WILKINS,
Vestry Clerk.

Vestry Offices:
Battersea Rise, S.W.,
30th January, 1894.

THE Middleton Corporation are prepared to receive Tenders for the supply of the SULPHURIC ACID required at the Gas Works during the ensuing year, delivered at the Gas Works, Middleton (free of carriage); also for the purchase of the SURPLUS TAR.

Further particulars may be obtained from Mr. DUNBURY, Gas Manager.

The Corporation do not bind themselves to accept the lowest or any tender.

Tenders addressed to the Chairman of the Gas Committee, to be delivered at my office, on or before Wednesday, the 14th day of February, 1894, endorsed "Tender for Sulphuric Acid."

FREDERICK ENTWISTLE,
Town Clerk.

Town Hall, Middleton, nr. Manchester,
26th January, 1894.

Miscellaneous.

DONALD'S CHLORINE CO. (LIMITED), IN LIQUIDATION.

TO BE SOLD By Public Roup, Within the Faculty Hall, St. George's Place, Glasgow, on Wednesday, 7th March, 1894, at 12 o'cock Noon.

The WORKS of DONALD'S CHLORINE COMPANY (LIMITED), in LIQUIDATION, at Longford, Kilwinning, Ayrshire, with all PATENT RIGHTS, PLANT and STOCK belonging to the Company

The Works have been erected in a most substantial manner, at a large cost, for the purpose of Manufacturing Chlorine from Hydrochloric Acid under the process invented by Mr. William Donald, and for the recovery of bye-products during the operation.

It is estimated that the Works may be completed and brought into operation at a comparatively smal cost; and the process covered by the patents has been reported upon as a valuable one, from which large profits may be made. The business contemplated includes the Manufacture of Bleaching Powder, Chlorate of Potash, Chlorate of Soda, and Saltcake, for which there is a large market.

The Buildings and Plant are extensive, and include Chlorine Plant, Drying Towers, Oxidising Towers, Decomposing Plant, Recovery Plant, Bleach Chambers, Refrigerator, Engines, Boilers, Steam Pipes, Laboratory, and other Apparatus and Plant suitable for carrying on a large business There are also included the Movable Plant and Stock on the Premises

The Ground, extending to 5½ acres, is held on lease at a moderate rent, with right to obtain a perpetual feu There is a railway connection.

To induce competition, the Upset Price has been fixed at £7,500.

Fully detailed Inventories may be seen in the hands of Wm Dunlop, C.A., 82, West Regent Street, Glasgow, the Official Liquidator, from whom, or from J. M. Taylor, & Foulis, Writers, 180, St. Vincent Street, Glasgow, all further particulars may be obtained.

TO CHEMICAL MANUFACTURERS AND OTHERS. Chemical Plumbers and Lead Burners supplied to any part of the world.—Apply, Secretary, Canning Town Lodge, 324 Barking Road, London, E.

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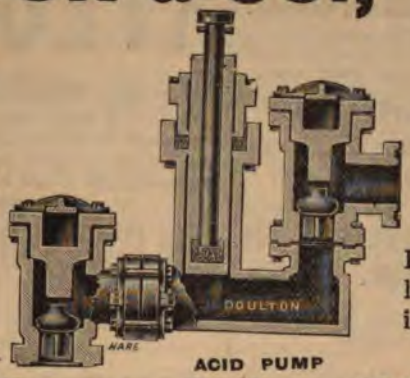

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Tenders.

MANCHESTER CORPORATION GAS WORKS.

TO TAR DISTILLERS AND OTHERS.

THE Gas Committee of the Corporation of Manchester are prepared to receive Tenders for the PURCHASE and REMOVAL of the GAS TAR to be produced at their several stations during a period of one, two, or three years, commencing as follows, viz.:—

Bradford Road Station, from noon on the 31st March, 1894.
Rochdale Road Station, from noon on the 24th June, 1894.
Gaythorn Station, from noon on the 1st August, 1894.

The Committee do not bind themselves to accept the highest or any Tender, and reserve the right to divide the Tenders as they may consider advisable.

Sealed Tenders (addressed to the Chairman of the Gas Committee, and endorsed "Tender for Tar") must be delivered at the offices of the Gas Department, Town Hall, on or before Thursday, the 1st of March next.

Forms of Tender and other particulars may be obtained on application in writing to Mr. CHARLES NICKSON, Superintendent of the Department.

By Order of the Gas Committee,
WM. HENRY TALBOT,
Town Clerk.

Town Hall, Manchester,
Feb. 2, 1894.

TAR.

THE Gas Committee of the Belfast City Council invite Tenders for the Purchase of the TAR made at their Works, for a term of Three, Five, or Seven Years, commencing on the 1st of July, 1894.

The present annual make of Tar is about 1,350,000 gallons.

Conditions of Contract and other Particulars may be obtained from the Manager of the Gas-Works.

Tenders, on office forms, must be delivered on or before the 21st of February, addressed to the Town Clerk, Town Hall, Belfast, and endorsed "Tender for Tar."

The Committee may not accept the highest or any tender.

JAMES STELFOX,
Engineer and Manager.

Belfast Corporation Gas-Works,
January 24, 1894.

THE VESTRY OF THE PARISH OF ST. MARY, BATTERSEA.

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Tenders, sealed and marked on the outside "Tender for Disinfectants," must be delivered to me, at the Vestry Offices, before one o'clock on Wednesday, the 14th February, 1894, and must contain the names and addresses of two responsible persons who are willing to join the contractor in a contract for the due execution of the same.

The Contract will be prepared by and at the expense of the Vestry.

Persons tendering, will be required to declare in their tender that they pay the Trades' Union rate of Wages.

The Vestry do not bind themselves to accept the lowest or any tender.

By order of the Vestry of the Parish of St. Mary, Battersea.

W. MARCUS WILKINS,
Vestry Clerk.

Vestry Offices:
Battersea Rise, S.W.,
30th January, 1894.

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Further particulars may be obtained from Mr. DUXBURY, Gas Manager.

The Corporation do not bind themselves to accept the lowest or any tender.

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FREDERICK ENTWISTLE,
Town Clerk.

Town Hall, Middleton, nr. Manchester,
26th January, 1894.

Miscellaneous.

DONALD'S CHLORINE CO. (LIMITED) IN LIQUIDATION.

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The WORKS of DONALD'S CHLORINE COMPANY (LIMITED), in LIQUIDATION, at Longford, Kilwinning, Ayrshire, with all PATENT RIGHTS, PLANT and STOCK belonging to the Company

The Works have been erected in a most substantial manner, at a large cost, for the purpose of Manufacturing Chlorine from Hydrochloric Acid under the process invented by Mr. William Donald, and for the recovery of bye-products during the operation.

It is estimated that the Works may be completed and brought into operation at a comparatively small cost; and the process covered by the patents has been reported upon as a valuable one, from which large profits may be made. The business contemplated includes the Manufacture of Bleaching Powder, Chlorate of Potash, Chlorate of Soda, and Saltcake, for which there is a large market.

The Buildings and Plant are extensive, and include Chlorine Plant, Drying Towers, Oxidising Towers Decomposing Plant, Recovery Plant, Bleach Chambers Refrigerator, Engines, Boilers, Steam Pipes, Laboratory, and other Apparatus and Plant suitable for carrying on a large business There are also included the Movable Plant and Stock on the Premises

The Ground, extending to 5½ acres, is held on lease at a moderate rent, with right to obtain a perpetual feu There is a railway connection.

To induce competition, the Upset Price has been fixed at £7,500.

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TO CHEMICAL MANUFACTURERS AND OTHERS. Chemical Plumbers and Lead Burners supplied to any part of the world.—Apply, Secretary, Canning Town Lodge, 324, Barking Road, London, E.

FOREMAN MECHANIC is open to an engagement to take charge of Machinery; well up in shop work, and thoroughly qualified to do own repairs; good references.—"Delta," *Chemical Trade Journal* Office, Manchester.

TAR, CHEMICAL, OR COLOUR WORKS.—Young Man seeks Situation in above or similar works. Four year's general training in Chemistry and Physics, at Science College; good references; small salary required.—Address, "B.Sc.," *Chemical Trade Journal* Office, Manchester.

TO MANUFACTURING CHEMISTS, DRYSALTERS, AND OTHERS.—Advertiser, possessing practical chemical knowledge; accurate analyst; good accountant; conversant with book-keeping; and experienced in the chemical and allied trades, desires ENGAGEMENT.—Address, H 130, *Chemical Trade Journal* Office, Manchester.

TO TAR DISTILLERS AND SULPHATE OF AMMONIA MANUFACTURERS.—Advertiser, age 36, is open for an engagement as FOREMAN or to take charge of stills; many years practical experience; highest reference.—Address, A, 112, *Chemical Trade Journal* Office, Manchester.

PLUMBER, young, wants Situation. Good references.—Apply, J 130, *Chemical Trade Journal* Office, Manchester.

CHEMICAL WORKS, in the Forest of Dean, comprising Wood, Black, and Sulphuric Acid Works, TO BE SOLD very cheap.—Address, Cannop Chemical Co., Monmouth.

SITUATION wanted, as CHEMIST or MANAGER, by thoroughly trained *German Chemist, Ph.D.* Has had charge of various German and American factories since 1880; highest references; moderate salary.—Address, F 129, *Chemical Trade Journal* Office, Manchester.

TO PAPER MANUFACTURERS.—A GENTLEMAN (36), with about 10 year's experience in paper mills, and who has acted as managing chemist to one of the largest sulphite paper mills in England, is open for an appointment as MANAGER; is a competent chemist and engineer, and thoroughly understands the manufacture of wood pulp in all its branches, and of wood papers. Highest refereaces as to character, etc.—Address, J.B., *Chemical Trade Journal* Office, Manchester.

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IRON and STEEL (butt or lap welded), and FITTINGS for Gas, Water, Steam, Liquid Ammonia, and Hydraulic Work, galvanized white enamelled inside, or coated by Dr. Angus Smith's Composition. In stock to 8in. diameter.
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31, MARK LANE, LONDON.

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ENGINEER OR WORKS MANAGER.—Engagement wanted, by Practical and Scientific Engineer with chemical knowledge; lately in charge of chemical works; accustomed to designing and carrying out new plant, repairs, and labour-saving devices; commercial experience; fluent French; age 31.—Address M 129, *Chemical Trade Journal* Office, Manchester.

Miscellaneous.—Cont.

TAR, CHEMICAL, OR COLOUR WORKS.—Young Man seeks Situation in above or similar works. Four year's general training in Chemistry and Physics, at Science College; good references; small salary required.—Address, "B.Sc.," *Chemical Trade Journal* Office, Manchester.

DRAUGHTSMAN.—Young Man, age 22, requires SITUATION; accustomed to Chemical Plant and Machinery.—Address, R. D. W., *Chemical Trade Journal* Office, Manchester.

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TO THE CHEMICAL AND GLASS BOTTLE TRADE, &c.

FLUOR SPAR direct from the Mines for Manufacturing Fluoric Acid, etc, and used extensively in the glass bottle trade, also as a noted Flux for iron and brass founders Samples and prices on application to S. Smith and Sons, Mineral Merchants, Matlock, Derbyshire.

OLIVOLINE and ATEROLINE. Two perfect non-gumming Lubricating Oils. 20 years in use. Made to suit every class of machinery ashore or afloat. Gentlemen who can influence business are offered liberal terms. Sole Makers, DUNCAN, WATSON & Co., Oil Manufacturers and Mill Furnishers, Dashwood House, New Broad-street, London, E.C.

FOR SALE (in consequence of a death).—The old established BUSINESS of a DRYSALTER and PAINT MANUFACTURER, carried on in Manchester, under the name of H. S. Holland. Principals or Solicitors only dealt with.—Apply, Peacock and Jacques, Solicitors, 86, Cross Street, Manchester.

CHEMICAL BALANCE, second-hand, in good condition, WANTED; to weigh to $\frac{1}{50}$th grain.—J. J. Knight, 13, Grafton Street, West Gorton, Manchester.

WE let Disintegrators, Stone and Ore Breakers, Edge Runner Mills, Mixing Machines, Roller Mills, and Engines both new and second-hand, on terms to suit all.—S. Mason and Co, Engineers, Brandon Street, Leicester.

SECOND-HAND MACHINERY FOR SALE.—One Copper Vacuum Pan, about 4ft. 6in. diameter; a Pair of Granite Edge Runners, about 4ft. 6in. diameter by 14in. wide, with bed stone, etc., and gearing complete; One Grain Convertor; several Screw Presses, Engines, Boilers, Tanks, Steam Pumps, Oak and Fir Vats, etc.—Apply to Henry Roberts and Co., Crown Works Bancroft Road, Mile End, London E.

VATS, Squares, Rounds, Chemical Baths, and every description of Wooden Vessel new and second-hand.—Henry Roberts and Co., Coopers and Vat Makers, Bancroft Road, Mile End, London, E.

SULPHATE of Lime, calcined, For Sale, cheap, in large and regular quantities.—Address Sadler & Co., Limited, Middlesbrough.

TO BE SOLD, the LANCASHIRE MANURE COMPANY'S WORKS at Widnes, with Machinery and 24,420 square yards of Freehold Land.—Address J. Hosking, 16, Fenwick Street, Liverpool.

AMMONIA, all qualities and strengths. Enquiries solicited. BROTHERTON & Co., Birmingham, Leeds, and Wakefield.

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For conditions apply to Mr. Newbigging, engineer, Gas Works, Macclesfield.

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MR. HENRY W. ROBERTS has been favoured with instructions to Sell, on the Premises, on Wednesday, April 18, 1894, at 11 for 12 o'clock (immediately following sale of Freehold), the whole of the costly MACHINERY and PLANT of the above 60qr. BREWERY, comprising: 25 h.-p., 20 h.-p., and six h.-p. high pressure horizontal steam-engines, 30qr. iron mash tun, with rakes, sparge, copper strainer plates, &c., four sets of three throw g.m. pumps, 8-in. pump and framing, pair of 4-in. Cameron steam pumps, rotary pumps, hand pumps, iron hop back, iron under back, square iron mash tun, with gear, mashing machines, malt mills, 60 Burton Union casks, wrought iron digester with steam jacket, hydraulic hop presses, 26-in. yeast press, large iron coolers and tanks, fir settling backs, fermenting rounds and squares, slate squares with copper coils, elevators, creepers, I.R. hose, weighing machine, shive lathe, circular saw bench and saws, drilling machine, grindstones and frames, chaff-cutters, shafting, bearings, pulleys, bevel wheels, girders and columns, piping, sluice valves, office furniture, and numerous other effects. May be viewed week preceding and morning of sale, and Catalogues obtained of the Auctioneer, Bancroft-road, Mile-end, London, E.

Thornaby-on-Tees, South Stockton.—Freehold Premises, with extensive outbuildings, stables, &c.

MR. HENRY W. ROBERTS has been directed to offer by Auction, on the Premises of the North Riding Brewery, Thornaby-on-Tees, on Wednesday, 18th April, 1894 (immediately preceding the sale of plant, at 11 o'clock), the above very valuable Property, comprising: thoroughly well-built BREWERY (60 qr.) of modern construction, built at an enormous cost, together with stabling, offices, tun-rooms, engine-rooms, coopers' shop, sheds, and warehouses, the whole occupying an area of over an acre. To Brewers who are seeking to establish or develop trade in this now very rising and populous neighbourhood, this affords a very special opportunity, as the remaining portion of the plant may, if desired, be taken over at a valuation, or could be purchased at the Auction immediately following. To Capitalists or Speculators, too, the property is worth attention, as from its situation (being on the main road between Stockton and Middlesbrough) it affords special inducements for the erection of small villas or cottages, which are in great demand. Plans, particulars, and conditions of sale are to be had of C. J. Archer, Esq., Solicitor, Stockton-on-Tees; or at the Auctioneer's Offices, Bancroft-road, London, E.

ELECTRO-CHEMICAL WORKS. Employment wanted, in above, by CHEMIST with five years' experience as manager in similar works.—C.F.C., *Chemical Trade Journal* Office, Manchester

PEROXIDE OF LEAD.—The English Patent to be Sold to a Large Firm. The German Patent has been taken by the leading German Chemical Works.—Apply to J. 4785, care of Rudolf Mosse, Stuttgart, Germany.

SUB-AGENTS wanted, by a large German Chemical Manufactory, with Head Office in London, for the SALE of their PRODUCTS in Manchester, Glasgow, Hull, Newcastle, etc. Only those with first-class references and good connections amongst consumers may apply to X.Y. 23, *Chemical Trade Journal* Office, Manchester.

CHROME-ALUM COMPOUNDS AND YELLOW PRUSSIATE:—Offers wanted for regular delivery. Inferior makes of no use.—Apply, furnishing samples, to Fred L. Brotherton, Importer, Hamburg, Germany.

OULTON & CO., LAMBETH, LONDON, S.E.

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CHEMICAL
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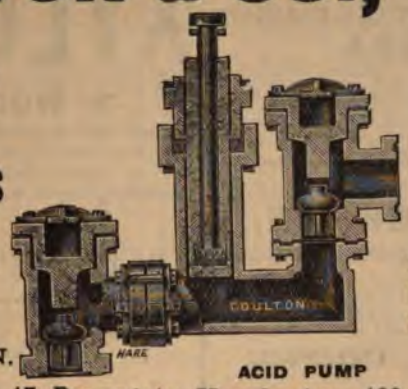

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UNITED ALKALI COMP.'S
HYPO-SULPHITE OF SODA,
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Tenders.

ULVERSTON LOCAL BOARD.

TO TAR DISTILLERS.

THE Gas and Water Committee invite TENDERS for the purchase of the surplus TAR produced at their works, during the year commencing 1st July next.

Further particulars and forms of Tender may be had on application to the undersigned.

Sealed Tenders to be sent in not later than the 26th inst. addressed to the Chairman of the Gas and Water Committee, and endorsed "Tender for Tar."

The Committee do not bind themselves to accept the highest or any Tender.

JNO. SWAN,
Engineer and Manager.

Miscellaneous.

☞ **Replies to Advertisements addressed to the "Chemical Trade Journal" Office are forwarded to Advertisers, post free.**

EXPERIENCED Young Chemist desires Engagement in Works Laboratory or in a Mining Company; knowledge of all branches of chemical analysis; good references; moderate salary.—Address, "Zinc," *Chemical Trade Journal* Office, Manchester.

OILS, COLOURS, & VARNISHES. An experienced Chemist, holding 1st class Honours Certificate of the City Guilds of London, well up in Manufacture and Analysis of above, seeks EMPLOYMENT; terms reasonable.—Apply, "Anime," 137, Avondale Square, Old Kent Road, London.

ELECTRO-CHEMICAL WORKS. Employment wanted, in above, by CHEMIST with five years' experience as manager in similar works.—C.F.C., *Chemical Trade Journal* Office, Manchester.

FOR SALE, about three dozen Earthenware Taps in good condition, 2, 1½, and 1 inch.—TAPS, *Chemical Trade Journal*, Manchester.

FOR SALE, a number of second-hand Stone Cisterns. Flags thoroughly sound, Close to Canal.—CISTERN, *Chemical Trade Journal*. Manchester.

FILTER PRESS FOR SALE—CHEAP.—12 19-inch square plates, pump, and gauge; £11.—Apply to R. W. Andrews, 24, Grays Inn Road, London, W.C.

TO CHEMICAL MANUFACTURERS AND OTHERS. Chemical Plumbers and Lead Burners supplied to any part of the world.—Apply, Secretary, Canning Town Lodge, 324, Barking Road, London, E.

VARNISH Maker, &c., or Manager seeks Situation; many years' experience of every detail; good references.—Address, W. Harvey, 70, Senrab Street, London, E.

FOR SALE, 100 Tons Nitrate Cake, free on rail or canal. Offers to L., 784, *Chemical Trade Journal* Office, Manchester.

TO CAPITALISTS.—For Sale, the English Patent Right of manufacturing Xylolith—an artificial preparation combining the properties of Wood and Stone, and forming, beyond dispute, the most suitable material for the flooring of private houses, public halls, hospitals, etc., etc. The firm now holding and working the German Patent are prepared to supply full information as to method and cost of manufacture. A splendid opportunity.—Apply in first instance to Davis Bros., 32, Blackfriars Street, Manchester.

DRAUGHTSMAN.—Young Man, age 22, requires SITUATION; accustomed to Chemical Plant and Machinery.—Address, R. D. W., *Chemical Trade Journal* Office, Manchester.

OLIVOLINE and ATEROLINE. Two perfect non-gumming Lubricating Oils. 20 years in use. Made to suit every class of machinery ashore or afloat. Gentlemen who can influence business are offered liberal terms. Sole Makers, DUNCAN, WATSON & Co., Oil Manufacturers and Mill Furnishers, Dashwood House, New Broad-street, London, E.C.

Miscellaneous.—Cont.

TO BE SOLD, the LANCASHIRE MANURE COMPANY'S WORKS at Widnes, with Machinery and 24,420 square yards of Freehold Land.—Address J. Hosking, 16, Fenwick Street, Liverpool

SECOND-HAND MACHINERY FOR SALE.—One Copper Vacuum Pan, about 4ft. 6in. diameter; a Pair of Granite Edge Runners about 4ft. 6in. diameter by 14in. wide, with bed stone, etc., and gearing complete; One Grain Convertor; several Screw Presses, Engines, Boilers, Tanks, Steam Pumps, Oak and Fir Vats, etc.—Apply to Henry Roberts and Co., Crown Works Bancroft Road, Mile End, London, E.

VATS, Squares, Rounds, Chemical Baths, and every description of Wooden Vessel new and second-hand.—Henry Roberts and Co., Coopers and Vat Makers, Bancroft Road, Mile End, London, E.

SULPHATE of Lime, calcined, For Sale, cheap, in large and regular quantities.—Address Sadler & Co. Limited, Middlesbrough.

WE let Disintegrators, Stone and Ore Breakers, Edge Runner Mills, Mixing Machines, Roller Mills, and Engines both new and second-hand, on terms to suit all.—S. Mason and Co., Engineers, Brandon Street, Leicester.

FOR SALE, as a going concern, cheap, TIN WORKS; specially built for making Tin Oxide or Metallic Tin.—Apply, J. Stott, 100, Lugsdale Road, Widnes.

WANTED, SITUATION as Managing Clerk, Correspondent or Traveller, England or abroad, in large Chemical Firm, by young foreign Gentleman; intelligent, pushing, energetic, steady, extensive knowledge of chemical trade, perfect English, French, German correspondent; holds responsible position of trust; first-class references.—Apply, "Reliable," *Chemical Trade Journal* Office, Manchester.

AMMONIA, all qualities and strengths. Enquiries solicited.
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A Treatise containing 750 Practical Receipts and Formulæ for the Manufacture of Polishes, Lacquers, Varnishes, and Japans of all kinds; for Workers in Wood and Metal, and directions for using.
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Oils, Sugars, Cereals, Wines, General Produce, or Ores, at Liverpool, sampled, tested, and reported upon, for London or Provincial Houses, with care and despatch, on reasonable terms.
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An Artificial Preparation inexpensively p
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can be manipulated by ordinary Wood
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The Patent Right For
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TUBES
IRON and STEEL (butt or lap welded), and FITTINGS for Gas, Water, Steam, Liquid Ammonia, and Hydraulic Work, galvanized white enamelled inside, or coated by Dr. Angus Smith's Composition. In stock to 8in. diameter.
COILS for heating, super-heating, distilling and refrigerating purposes, to 500 feet long without joints.
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Tenders.

TO OXIDE OF IRON MERCHANTS.

THE Corporation of Birkenhead are prepared to receive TENDERS for the supply of 350 Tons of OXIDE OF IRON.

Forms of Tender and other information may be obtained from Mr. T. O. PATERSON, Gas Engineer, Gas Works, Thomas-street.

Tenders, sealed and endorsed "Tender for Oxide of Iron," to be sent in to me not later than 5 p.m. on Friday, the 1st June, 1894.

Deliveries to be made within one month of written instructions from the Gas Engineer.

The Corporation do not bind themselves to accept the lowest or any tender.

By order,
ALFRED GILL,
Town Clerk.

Town Hall, Birkenhead,
May 9th, 1894.

BUXTON LOCAL BOARD.

TENDERS FOR TAR AND LIQUOR.

THE Buxton Local Board invite TENDERS for the purchase of the surplus TAR and LIQUOR produced at their Works, in Ashwood Dale, for One, Two, or Three Years, commencing from the 30th of June next.

Further Particulars and Forms of Tender to be obtained of Mr G. SMEDLEY, Gas Office, Buxton.

Tenders, endorsed "Tender for Tar and Liquor," to be addressed to the Chairman of the Gas Committee, and delivered not later than Twelve Noon on the 19th day of May.

The Board do not bind themselves to accept the highest or any tender.

By order,
JOSIAH TAYLOR,
Clerk.

Town Hall, Buxton,
May 4th, 1894.

Miscellaneous.

☞ **Replies to Advertisements addressed to the "Chemical Trade Journal" Office are forwarded to Advertisers, post free.**

ELECTROLYSIS.

THE Chemical and Electrolytic Syndicate, Limited, hereby CAUTION all persons engaged on Electrolysis (more especially that of fused salts), against using without licence, the apparatus protected by Patent No. 7504, of 1893, the property of the Syndicate, or any of such apparatus. Applications for Licences, should be addressed to the Offices of the Syndicate, 6, Clements Lane, Lombard Street, London, E.C.

By order,
J. W. KNOWLES,
Secretary.

SITUATION Wanted, as Chemist or Manager, by thoroughly trained *German Chemist (Ph.D.)*; has had charge of various German and American factories, since 1880; highest references; moderate salary.—Address, F.F. 827, *Chemical Trade Journal* Office, Manchester.

YOUNG CHEMIST desires Situation in Works Laboratory; experienced in analysis of all ores, slags, and alloys; good metallurgist; splendid references; moderate salary.—Apply, "Assayer," *Chemical Trade Journal* Office, Manchester.

WANTED.—A Manager for Tar Distillery, with a view to Partnership. Apply, giving age, references, and experience and what capital at disposal, to P 792, *Chemical Trade Journal* Office, Manchester.

COMPETENT CHEMIST Wanted for Works' Laboratory; must be accurate and rapid analyst. Age not over 30 years. State experience, salary required, and when at liberty.—Address, endorsed "Chemist," to Lever Bros., Ltd., Port Sunlight, near Birkenhead.

AN experienced technical CHEMIST is open to further ENGAGEMENT.—Address, M.C., *Chemical Trade Journal* Office, Manchester.

STILL MAN WANTED for Yorkshire Tar Works. Must be first class man.—Address, B., *Chemical Trade Journal* Office.

Miscellaneous.—Cont.

PARTNERSHIP.—Two Hundred Pounds will purchase half share in small WORKS, making Soda Crystals, Boiler Fluid, etc., etc.—Apply, D.K., *Chemical Trade Journal* Office, Manchester.

CHEMIST (French), desires Situation in Metallurgical or Technical Works; three languages; several years practice in Metallurgy; highest references.—Address, Kienast, c/o Landauer, 36, Fenchurch Street, London, E.C.

ON SALE.—Beer Hogsheads, Oil Barrels, Rum Puncheons, Butts.—P. Hickey, St. Oswald Street Cooperage, Rochdale Road, Manchester.

CARB. AMMONIA.—20 Tons WANTED; intending makers please address offers to "Alpha," *Chemical Trade Journal* Office, Manchester.

FILTER PRESS FOR SALE—CHEAP.—12 19-inch square plates, pump, and gauge; £11.—Apply to R. W. Andrews, 24, Grays Inn Road, London, W.C.

TO CHEMICAL MANUFACTURERS AND OTHERS. Chemical Plumbers and Lead Burners supplied to any part of the world.—Apply, Secretary, Canning Town Lodge, 324, BarkingRoad, London, E.

TO CHEMICAL MANUFACTURERS AND OTHERS.—FOR SALE, 5 plain cylindrical, egg-ended Boilers, 48ft. x 7ft., in first-class condition, good for 40 lbs. pressure. Also Tank, 61ft. x 21ft. x 3ft.—Apply, Thos. W. Ward, Fitzalan Chambers. heffield.

OLIVOLINE and ATEROLINE. Two perfect non-gumming Lubricating Oils. 20 years in use. Made to suit every class of machinery ashore or afloat. Gentlemen who can influence business are offered liberal terms. Sole Makers, DUNCAN, WATSON & Co., Oil Manufacturers and Mill Furnishers, Dashwood House, New Broad-street, London, E.C.

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VATS, Squares, Rounds, Chemical Baths, and every description of Wooden Vessel new and second-hand.—Henry Roberts and Co., Coopers and Vat Makers, Bancroft Road, Mile End, London, E.

SULPHATE of Lime, calcined, For Sale, cheap, in large and regular quantities.—Address Sadler & Co., Limited, Middlesbrough.

AMMONIA, all qualities and strengths. Enquiries solicited. BROTHERTON & Co., Birmingham, Leeds, and Wakefield.

Advertisements which arrive too late for Insertion on this page will be found on first page of Matter (opposite Leading Article).

HARPER'S LIST

OF ACCESSORIES for the TRANSMISSION of POWER, viz.:—BELT PULLEYS, ROPE PULLEYS, GEAR WHEELS, SHAFTING, COUPLINGS, PEDESTALS, FIXINGS; appears on Pages 14 and 15 of the first *Chemical Trade Journal* of each month.

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Mr. FRANCIS SUTTON, F.I.C., F.C.S., has a Special Laboratory for the Manufacture of t Solutions for every variety of Analysis by Volumetric Methods, and on any syste Measurement; also Indicators, Test Papers, and all requisites.

Special Prices quoted to Large Consumers. Price List on application to

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TUBES

IRON and STEEL (butt or lap welded), and FITTINGS for Gas, Water, Steam, Liquid Ammonia, and Hydraulic Work, galvanized white enamelled inside, or coated by Dr. Angus Smith's Composition. In stock to 8in. diameter.

COILS for heating, super-heating, distilling and refrigerating purposes, to 500 feet long without joints.

JOHN SPENCER,

Globe Tube Works, Wednesbury, and 14, Great St. Thomas Apostle, Cannon-st., London, E.C.

BRYAN CORCORA

MILLSTONE BUILDI

WIRE WEAVER, MACHINE MANUFAC AND GENERAL MILL FURNISHE

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TONEWARE HEMICAL PARATUS OF RY DESCRIPTION.

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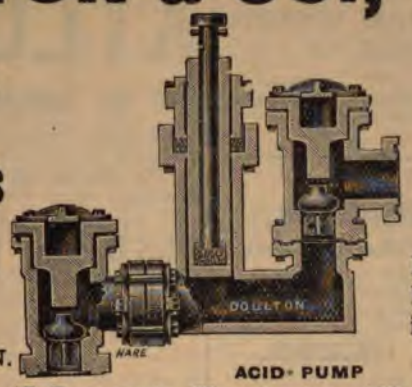

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IMPROVED STONEWARE ACID PUMPS.

Each Pump prior to leaving the Factory is put into actual work and tested.

OWROOMS: 17, Deansgate, Manchester; 100, Soho St., Liverpool; Granville St., Birmingham; 6, Rue de Paradis, Paris.

SPENCE'S

LUMP ALUM

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Leading Make for nearly Half a Century.

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RE WHITE SULPHATE OF ALUMINA, BLANC FIXE, CHLORIDE, NITRATE, AND SULPHIDE OF BARIUM.

UNITED ALKALI COMP.'S

HYPO-SULPHITE OF SODA,

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PRECIP. CARBONATE OF BARYTES 96/98%.

Hydrate and Anhydrous Alumina, Chloride and Carbonate of Alumina, Aluminate of Soda, Hydrate of Barium, &c.

nts: JULIUS HULSEN & CO., NEWCASTLE-ON-TYNE.

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JOR ERS. | BOILING NOZZLES. | SILENT HEATERS. | VACUUM EJECTORS. | AIR, &c. EXHAUSTERS.

RBURN & HALL Chief Office 63, Royal Exchange, MANCHESTER.

Tenders.

TO OXIDE OF IRON MERCHANTS.

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Forms of Tender and other information may be obtained from Mr. T. O. PATERSON, Gas Engineer, Gas Works, Thomas-street.

Tenders, sealed and endorsed "Tender for Oxide of Iron," to be sent in to me not later than 5 p.m. on Friday, the 1st June, 1894.

Deliveries to be made within one month of written instructions from the Gas Engineer.

The Corporation do not bind themselves to accept the lowest or any tender.

By order,
ALFRED GILL,
Town Clerk.

Town Hall, Birkenhead,
May 9th, 1894.

THE TAMWORTH GAS-LIGHT AND COKE COMPANY.

TO TAR DISTILLERS, ETC.

THE Directors of the above Company invite TENDERS for the PURCHASE of the SURPLUS TAR and AMMONIACAL LIQUOR produced at their works, for one or two years, from the 1st July next.

Coals carbonized, about 2,200 tons annually.

Tenders for Liquor to be made either at a fixed price per ton or on sliding scale, regulated by the price of sulphate.

Sealed Tenders, endorsed "Tender for Tar and Liquor" to be sent addressed to the undersigned by June 2nd next.

Any further information may be obtained on application.

WALTER A. SAPEY,
Secretary and Manager.

Gas Works, Tamworth.
May 10th, 1894.

Miscellaneous.

☞ **Replies to Advertisements addressed to the "Chemical Trade Journal" Office are forwarded to Advertisers, post free.**

ELECTROLYSIS.

THE Chemical and Electrolytic Syndicate, Limited, hereby CAUTION all persons engaged on Electrolysis (more especially that of fused salts), against using without licence, the apparatus protected by Patent No. 7594, of 1893, the property of the Syndicate, or any of such apparatus. Applications for Licences should be addressed to the Offices of the Syndicate, 6, Clements Lane, Lombard Street London E.C.

By order,
J. W. KNOWLES,
Secretary.

SITUATION Wanted, as Chemist or Manager, by thoroughly trained *German Chemist (Ph.D.)*; has had charge of various German and American factories, since 1880; highest references; moderate salary. —Address, F.F. 827, *Chemical Trade Journal* Office, Manchester.

WANTED.—A Manager for Tar Distillery, with a view to Partnership. Apply, giving age, references, and experience, and what capital at disposal, to P 792, *Chemical Trade Journal* Office, Manchester.

PARTNERSHIP.—Two Hundred Pounds will purchase half share in small WORKS, making Soda Crystals, Boiler Fluid, etc., etc.—Apply, D.K., *Chemical Trade Journal* Office, Manchester.

CHEMIST (French), desires Situation in Metallurgical or Technical Works; three languages; several years practice in Metallurgy; highest references.—Address, Kienast, c/o Landauer, 36, Fenchurch Street, London, E.C.

WANTED, for Manchester District, Druggist, Sundryman, or Drysalter, to take up Disinfectant Agency for London Firm. Liberal terms. Apply "Druggist," *Chemical Trade Journal* Office, Manchester.

TO CHEMICAL MANUFACTURERS AND OTHERS. Chemical Plumbers and Lead Burners supplied to any part of the world.—Apply, Secretary, Canning Town Lodge, 324, Barking Road, London, E.

Miscellaneous.—Cont.

TO CHEMICAL MANUFACTURERS AND OTHERS.—FOR SALE, 5 plain cylindrical, egg-ended Boilers, 48ft. x 7ft., in first-class condition, good for 40 lbs pressure. Also Tank, 61ft. x 9ft. x 9ft.—Apply, Thos. W. Ward, Fitzalan Chambers, Sheffield.

OLIVOLINE and ATEROLINE. Two perfect non-gumming Lubricating Oils. 20 years in use. Made to suit every class of machinery ashore or afloat. Gentlemen who can influence business are offered liberal terms. Sole Makers, DUNCAN, WATSON & Co., Oil Manufacturers and Mill Furnishers, Dashwood House, New Broad-street, London, E.C.

TO BE SOLD, the LANCASHIRE MANURE COMPANY'S WORKS at Widnes, with Machinery and 24,420 square yards of Freehold Land.—Address J. Hosking, 16, Fenwick Street, Liverpool.

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VATS, Squares, Rounds, Chemical Baths, and every description of Wooden Vessel new and second-hand.—Henry Roberts and Co., Coopers and Vat Makers, Bancroft Road, Mile End, London, E.

SULPHATE of Lime, calcined, For Sale, cheap, in large and regular quantities.—Address Sadler & Co., Limited, Middlesbrough.

WE let Disintegrators, Stone and Ore Breakers, Edge Runner Mills, Mixing Machines, Roller Mills, and Engines both new and second-hand, on terms to suit all.—S. Mason and Co., Engineers, Brandon Street, Leicester.

AMMONIA, all qualities and strengths. Enquiries solicited. BROTHERTON & Co., Birmingham, Leeds, and Wakefield.

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FOR VARNISH MANUFACTURERS.
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THOMAS SAVAGE,
Hooper Street Chemical Works, BIRMINGHAM.
SPECIALITIES—
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PRICES ON APPLICATION.

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Oils, Sugars, Cereals, Wines, General Produce, or Ores, at Liverpool, sampled, tested, and reported upon, for London or Provincial Houses, with care and despatch, on reasonable terms.
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ACCURATE STANDARD SOLUTION
Mr. FRANCIS SUTTON, F.I.C., F.C.S., has a Special Laboratory for the Manufacture of Solutions for every variety of Analysis by Volumetric Methods, and on any syste Measurement; also Indicators, Test Papers, and all requisites.
Special Prices quoted to Large Consumers. Price List on application to
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TUBES
IRON and STEEL (butt or lap welded), and FITTINGS for Gas, Water, Steam, Liquid Ammonia, and Hydraulic Work, galvanized white enamelled inside, or coated by Dr. Angus Smith's Composition. In stock to 8in. diameter.
COILS for heating, super-heating, distilling and refrigerating purposes, to 500 feet long without joints.
JOHN SPENCER,
Globe Tube Works, Wednesbury, and 14, Great St. Thomas Apostle, Cannon-st., London, E.C.

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MILLSTONE BUILD

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Liverpool: Exchange Chambers
Glasgow: West Campbell st.

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Glucose
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CORRESPONDENCE SOLICITED.

Tenders.

SCARBOROUGH GAS COMPANY.

THE Directors of the Scarboro' Gas Company invite TENDERS for the Surplus TAR and the whole of the AMMONIACAL LIQUOR produced at their Works, for One Year, from the 1st of July next.

Tenders for Liquor may be submitted either at a fixed price per ton, or on a sliding scale regulated by the price of Sulphate; preference will, however, be given to the latter.

Further particulars may be had on application to the undersigned, to whom Tenders properly endorsed must be delivered not later than noon, on Tuesday, the 12th day of June next.

(Signed) J. HOLLIDAY,
Secretary and General Manager.

TO MANUFACTURING CHEMISTS.

TAR AND AMMONIA WATER.

THE Directors of the Loughborough Gas Company are prepared to receive Tenders for the surplus Tar and Ammonia Water, to be produced at their Works for One Year, from the 30th day of June.

The estimated quantities will be about 350 tons of Tar, and 900 tons of Ammonia Water. The Tar and Liquor to be delivered into the Contractor's boats at the Wharf, on the Derby-road, Loughborough.

The strength of the Liquor to be tested by Twaddel's hydrometer (temperature 60°), and the tender to state the price per ton of four degrees, rising ½ degree, up to eight degrees.

The boats for the removal of the Tar and Liquor to be sent at such times as may be required. Payments 10th of following month.

Further information may be obtained on application to the undersigned, to whom Tenders, in accordance with this advertisement, must be sent not later than the 9th day of June.

The Directors do not bind themselves to accept the highest or any tender. J. B. BALL, C.E.,
Loughborough, Manager.
26th May, 1894.

Miscellaneous.

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SITUATION WANTED by experienced Works Chemist. Quick and correct Analyst. Good testimonials. Understands management of men and works. Age 33; moderate salary. "Expert," *Chemical Trade Journal* Office, Manchester.

CHEMIST (French), desires Situation in Metallurgical or Technical Works; three languages; several years' practice in Metallurgy; highest references.—Address, Kienast, c/o Landauer, 36, Fenchurch-street, London, E.C.

TECHNICAL CHEMIST (Ph.D.), holding diploma of Polytechnic School, wants to change situation. Eleven years' practical experience in large works in the manufacture of Acids, Alkali, Ammonia, Alumina Products, Mordants for dye works, etc.; also experience in the extraction and smelting of copper.—Apply, B.C., *Chemical Trade Journal* Office, Manchester.

CHEMIST, with considerable experience, practical and analytical; for a number of years in a large chemical works, Fellow of the Chemical Society, is open for an ENGAGEMENT; good references.—Address, W., 837, *Chemical Trade Journal* Office, Manchester.

WANTED.—Wrought Iron Tank, 6 to 10 ft. long, by 2 ft. wide, by 15 inches deep, about ½ inch thick.—Apply, D.B., *Chemical Trade Journal* Office, Manchester.

YOUNG CHEMIST desires Situation in Works Laboratory; experienced in analysis of all ores, slags, and alloys; good metallurgist; splendid references; moderate salary.—Apply, "Assayer," *Chemical Trade Journal* Office, Manchester.

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CYANIDES.—Wanted Particulars of Manufacture on large scale; communications treated confidential.—Mr. Brotherton, Commercial Buildings, Leeds.

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ON SALE.—Beer Hogsheads, Oil Barrels, Rum Puncheons. Butts.—P. Hickey, St. Oswald Street Cooperage, Rochdale Road, Manchester.

OLIVOLINE and ATEROLINE. Two perfect non-gumming Lubricating Oils. 20 years in use. Made to suit every class of machinery ashore or afloat. Gentlemen who can influence business are offered liberal terms. Sole Makers, DUNCAN, WATSON & Co., Oil Manufacturers and Mill Furnishers, Dashwood House, New Broad-street, London, E.C.

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Hooper Street Chemical Works, BIRMINGHAM.

SPECIALITIES—

Cyanide of Potassium. Nitrate of Baryta, Nitrate of Strontia, Nitrous & Nitric Acid, Acids—Pure & Commercial, Blanc Fixe, &c.

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TUBES

IRON and STEEL (butt or lap welded), and FITTINGS for Gas, Water, Steam, Liquid Ammonia, and Hydraulic Work galvanized white enamelled inside, or coated by Dr. Angus Smith's Composition. In stock to 8in. diameter.

COILS for heating, super-heating, distilling and refrigerating purposes, to 500 feet long without joints.

JOHN SPENCER.

Globe Tube Works, Wednesbury, and 14, Great St. Thomas Apostle, Cannon-st., London, E.C.

BRYAN CORCORA

MILLSTONE BUILD

WIRE WEAVER, MACHINE MANUFA AND GENERAL MILL FURNIS Sole Maker of MILBURN'S Patent Conoidal Stone Grinding

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CARBOYS.

SHERDLEY GLASSWORKS, ST. HELENS.

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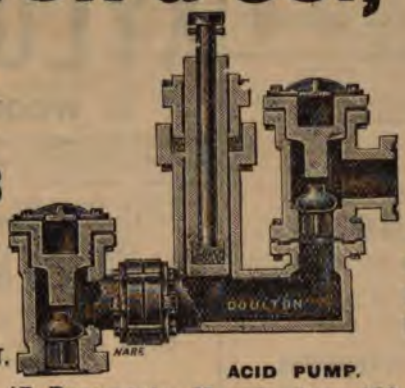

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Tenders.

COUNTY BOROUGH OF STOCKPORT.

GAS DEPARTMENT.

TENDERS FOR TAR AND AMMONIACAL LIQUOR.

THE Gas Committee invite Tenders for the purchase of the surplus Tar, and the whole of the Ammoniacal Liquor produced at their Works for a period of One, Two, or Three Years, commencing on July 1st, 1894.

Particulars as to quantity and conditions of Contract, may be obtained on application to the Engineer, Mr. S. Meunier, Millgate, Stockport.

Tenders endorsed with the subject of tender, addressed to the Chairman of the Gas Committee, must be sent in on or before June 6th, 1894.

The Committee do not bind themselves to accept the highest or any tender.

By order,
WALTER HYDE,
Town Clerk.

May 25th, 1894.

SCARBOROUGH GAS COMPANY.

THE Directors of the Scarboro' Gas Company invite TENDERS for the Surplus TAR and the whole of the AMMONIACAL LIQUOR produced at their Works, for One Year, from the 1st of July next.

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Manager.

Loughborough,
26th May, 1894.

Miscellaneous.

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WANTED (at once) MANAGER for Tar Distillery; experienced; some engineering and clerical knowledge required; workman's hours. Write stating experience, age, salary, references, etc., to "Manager," *Chemical Trade Journal*, Manchester.

SITUATION WANTED by experienced Works Chemist. Quick and correct Analyst. Good testimonials. Understands management of men and works. Age 33; moderate salary. "Expert," *Chemical Trade Journal* Office, Manchester.

TECHNICAL CHEMIST (Ph.D.), holding diploma of Polytechnic School, wants to change situation. Eleven years' practical experience in large works in the manufacture of Acids, Alkali, Ammonia, Alumina Products, Mordants for dye works, etc.; also experience in the extraction and smelting of copper.—Apply, B.C., *Chemical Trade Journal* Office, Manchester.

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SEWAGE PRECIPITATION.—Large quantities and regular supplies of GREEN COPPERAS For Sale.—Corrugated Iron Co., Limited, Wolverhampton.

FOR SALE, 2-H.P. GAS ENGINE (Crossley's latest type); nearly new. 10-cwt. Platform Weighing Machine (Avery). Cast iron Steam-jacketed Pan, fitted with agitator; capacity about 80 gallons. Cast iron Indigo Grinding Mill, drum shape.—Apply, H.P. 852, *Chemical Trade Journal* Office, Manchester.

FILTER PRESSES For Sale (3); very cheap and in good condition. Can be seen at 94, Grays Inn Road, W.C., R. W. Andrews and Co.

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ASSAYERS and ANALYTICAL CHEMISTS,
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SULPHITES AND BISULPHITES OF LIME, SODA,
FOR EXPORT.
S. KEYS & CO. Limited, WEST BROMWI

ACCURATE STANDARD SOLUTION
Mr. FRANCIS SUTTON, F.I.C., F.C.S., has a Special Laboratory for the Manufacture of
Solutions for every variety of Analysis by Volumetric Methods, and on any syste
Measurement; also Indicators, Test Papers, and all requisites.
Special Prices quoted to Large Consumers. Price List on application to
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TUBES
IRON and STEEL (butt or lap welded), and FITTINGS for Gas, Water, Steam, Liquid Ammonia, and Hydraulic Work, galvanized white enamelled inside, or coated by Dr. Angus Smith's Composition. In stock to 8in. diameter.
COILS for heating, super-heating, distilling and refrigerating purposes, to 500 feet long without joints.
JOHN SPENCER,
Globe Tube Works, Wednesbury, and 14, Great St. Thomas Apostle, Cannon-st., London, E.C.

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WIRE WEAVER, MACHINE MANUFA
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Sole Maker of MILBURN'
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Especially suitable for ce
materials, Wet or Dr
Works and Warehouses:
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31, MARK LANE, LOND

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WALKER BROS.,

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WALKER'S PATENT

IR COMPRESSING ENGINES.

AS COMPRESSING ENGINES.

70,000 I.H.P. ALREADY AT WORK.

WALKER'S PATENT

KHAUST AND BLAST FANS.

IVER POLLUTION

DYERS, CALICO PRINTERS, AND OTHERS

eadily PURIFY THEIR WASTE WATERS by the simple and inexpensive

ALUMINOFERRIC PROCESS.

Full Particulars on application to—

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IMPORTERS OF

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ORIDE OF CHROME (Patented). ANTIMONY SALTS.

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SUGAR OF LEAD, WHITE AND BROWN.

C OXIDE, PURE ACETIC, TANNIC, & SALICYLIC

CIDS, NITRATE & CHLORIDE OF BARIUM, &c.

CIALITIES:—

ASH 58% Phosphoric Acid
ASHES Acetates
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RALS
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Castor Oil
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(Grasso's)

Amidol, Metol, Glycin,
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&c., &c.

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SAMPLES AND PRICES ON APPLICATION.

CORRESPONDENCE SOLICITED.

Tenders.

TIPTON GAS WORKS.

TAR CONTRACTS.

THE Gas Committee of the Tipton Local Board invite TENDERS for the purchase of the Surplus TAR produced at the above Works, during a period of One, Two, or Three Years, from 1st of July next.

Particulars may be obtained at the Gas Works, on application to Mr. Vincent Hughes, the Engineer and Manager.

The Tar may be delivered either into boats, or on rail (L. & N. W. Ry.), as may be required.

Sealed and endorsed Tenders to be sent to me, the undersigned, not later than 10 a.m., on Saturday, 23rd inst.

The Committee do not bind themselves to accept the highest or any tender.

By order,
GEO. M. WARING,
Clerk to the Board.

Public Offices, Tipton,
5th June, 1894.

LEEK IMPROVEMENT ACT, 1855.

TO TAR DISTILLERS AND OTHERS.

TENDERS are invited for the Purchase of the Surplus GAS TAR produced at the Leek Gas Works, for One Year, from the 1st July, 1894, at per ton of 2,240 lbs., at such works.

Endorsed Tenders, addressed to the Chairman of the Gas Committee, to be delivered at the Town Hall, Leek, by four o'clock in the afternoon of Monday, the 18th June instant.

Forms of Tender and further Particulars may be obtained from the undersigned.

The highest or any Tender will not necessarily be accepted.

By order of the Commissioners,
C. HENSHAW,
Clerk.

Town Hall, Leek,
6th June, 1894.

SCARBOROUGH GAS COMPANY.

THE Directors of the Scarboro' Gas Company invite TENDERS for the Surplus TAR and the whole of the AMMONIACAL LIQUOR produced at their Works, for One Year, from the 1st of July next.

Tenders for Liquor may be submitted either at a fixed price per ton, or on a sliding scale regulated by the price of Sulphate; preference will, however, be given to the latter.

Further particulars may be had on application to the undersigned, to whom Tenders properly endorsed must be delivered not later than noon, on Tuesday, the 12th day of June next.

(Signed) J. HOLLIDAY,
Secretary and General Manager.

COUNTY BOROUGH OF OLDHAM.

THE Gas Works Committee invite TENDERS for the TAR and AMMONIACAL LIQUOR to be produced at their different gas stations, for a period of One Year, commencing 1st July next. The yearly make of Tar is about 6,400 tons, and of Ammoniacal Liquor, about 2,400,000 gallons.

Particulars and Forms of Tender can be obtained on application to Mr. Arthur Andrew, Gas and Water Offices, Oldham, to whom Tenders are to be sent on or before Tuesday, 12th June, 1894.

A. NICHOLSON,
Town Clerk.

Oldham,
31st May, 1894.

Miscellaneous.

☞ **Replies to Advertisements addressed to the "Chemical Trade Journal" Office are forwarded to Advertisers, post free.**

ANALYST WANTED (Yorkshire), in Manure Works; must be practical and with some experience, and willing to fill up time in office work. Apply by letter, stating salary and full particulars, to H R.C., *Chemical Trade Journal* Office, Manchester.

WANTED (at once) MANAGER for Tar Distillery; experienced; some engineering and clerical knowledge required; workman's hours. Write stating experience, age, salary, references, etc, to "Manager," *Chemical Trade Journal*, Manchester.

CHEMIST (French), desires Situation in Metallurgical or Technical Works; three languages; several years' practice in Metallurgy; highest references.—Address, Kienast, c/o Landauer, 36, Fenchurch-street, London, E.C.

Miscellaneous.—Cont.

TECHNICAL CHEMIST (Ph.D.), holding diploma of Polytechnic School, wants to change situation. Eleven years' practical experience in large works in the manufacture of Acids, Alkali, Ammonia, Alumina Products, Mordants for dye works, etc; also experience in the extraction and smelting of copper.—Apply, B.C., *Chemical Trade Journal* Office Manchester.

CHEMIST, with considerable experience, practical and analytical; for a number of years in a large chemical works, Fellow of the Chemical Society, is open for an ENGAGEMENT; good references.—Address, W., 837, *Chemical Trade Journal* Office, Manchester.

CYANIDES.—Wanted Particulars of Manufacture from Gas Liquor and Spent Oxide; communications treated confidential.—Mr. Brotherton, Commercial Buildings, Leeds.

WANTED.—Wrought Iron Tank, 6 to 10 ft. long, by 2 ft wide, by 15 inches deep, about ¾ inch thick.—Apply, D.B., *Chemical Trade Journal* Office, Manchester.

SEWAGE PRECIPITATION.—Large quantities and regular supplies of GREEN COPPERAS For Sale.—Corrugated Iron Co., Limited, Wolverhampton

FOR SALE, 2-H.P. GAS ENGINE (Crossley's latest type); nearly new. 10-cwt. Platform Weighing Machine (Avery). Cast iron Steam-Jacketed Pan, fitted with agitator; capacity about 80 gallons. Cast iron Indigo Grinding Mill, drum shape.—Apply, H.P. 852, *Chemical Trade Journal* Office, Manchester.

FILTER PRESSES For Sale (3); very cheap and in good condition. Can be seen at 24, Grays Inn Road, W.C., R. W. Andrews and Co.

TO CHEMICAL MANUFACTURERS AND OTHERS. Chemical Plumbers and Lead Burners supplied to any part of the world.—Apply, Secretary, Canning Town Lodge, 324, Barking Road, London, E.

ON SALE.—Beer Hogsheads, Oil Barrels, Rum Puncheons. Butts.—P. Hickey, St. Oswald Street Cooperage, Rochdale Road, Manchester.

OLIVOLINE and ATEROLINE. Two perfect non-gumming Lubricating Oils. 20 years in use. Made to suit every class of machinery ashore or afloat. Gentlemen who can influence business are offered liberal terms. Sole Makers, DUNCAN, WATSON & Co., Oil Manufacturers and Mill Furnishers, Dashwood House, New Broad-street, London, E.C.

SECOND-HAND MACHINERY FOR SALE.—One Copper Vacuum Pan, about 4ft. 6in. diameter; a Pair of Granite Edge Runners about 4ft. 6in. diameter by 14in. wide, with bed stone, etc., and gearing complete; One Grain Convertor; several Screw Presses, Engines, Boilers, Tanks, Steam Pumps, Oak and Fir Vats, etc.—Apply to Henry Roberts and Co., Crown Works, Bancroft Road, Mile End, London, E.

VATS, Squares, Rounds, Chemical Baths, and every description of Wooden Vessel new and second-hand.—Henry Roberts and Co., Coopers and Vat Makers, Bancroft Road, Mile End, London, E.

SULPHATE of Lime, calcined, For Sale, cheap, in large and regular quantities.—Address Sadler & Co., Limited, Middlesbrough.

WE let Disintegrators, Stone and Ore Breakers, Edge Runner Mills, Mixing Machines, Roller Mills, and Engines both new and second-hand, on terms to suit all.—S. Mason and Co., Engineers, Brandon Street, Leicester.

AMMONIA, all qualities and strengths. Enquiries solicited. BROTHERTON & Co., Birmingham, Leeds, and Wakefield.

Advertisements which arrive too late for insertion on this page will be found on first page of Matter (opposite Leading Article).

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IRON and STEEL (butt or lap welded), and FITTINGS for Gas, Water, Steam, Liquid Ammonia, and Hydraulic Work, galvanized white esamelled inside, or coated by Dr. Angus Smith's Composition. In stock to 8in. diameter.
COILS for heating, super-heating, distilling and refrigerating purposes, to 500 feet long without joints.
JOHN SPENCER,
Globe Tube Works, Wednesbury, and 14, Great St. Thomas Apostle, Cannon-st., London, E.C.

BRYAN CORCOR

MILLSTONE BUIL
WIRE WEAVER, MACHINE MANU AND GENERAL MILL FURN
Sole Maker of MILBUR
Patent Conoidal Stone Grind
Especially suitable for materials, Wet or D
Works and Warehous
Back Church Lane. *Parcel Dept.*: Basemen Corn Exchange.
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Liverpool: Exchange Chambers
Glasgow: West Campbell-st.
CANNINGTON, SHAW & CO., LIMITED
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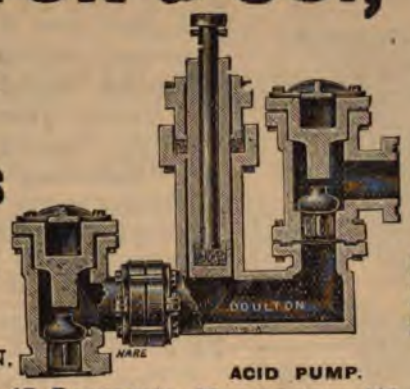

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IMPROVED STONEWARE ACID PUMPS.

Each Pump prior to leaving the Factory is put into actual work and tested.

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LUMP ALUM
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Leading Make for nearly Half a Century.

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Hydrate and Anhydrous Alumina, Chloride and Carbonate of Alumina, Aluminate of Soda, Hydrate of Barium, &c.

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Tenders.

TIPTON GAS WORKS

TAR CONTRACTS.

THE Gas Committee of the Tipton Local Board invite TENDERS for the purchase of the Surplus TAR produced at the above Works, during a period of One, Two, or Three Years, from 1st of July next.

Particulars may be obtained at the Gas Works, on application to Mr. Vincent Hughes, the Engineer and Manager.

The Tar may be delivered either into boats, or on rail (L. & N. W. Ry.), as may be required.

Sealed and endorsed Tenders to be sent to me, the undersigned, not later than 10 a.m., on Saturday, 23rd inst.

The Committee do not bind themselves to accept the highest or any tender.

By order,
GEO. M. WARING,
Clerk to the Board

Public Offices, Tipton,
5th June, 1894.

PENRITH LOCAL BOARD.

THE Gas Committee of the above Board are prepared to receive OFFERS for the purchase of their SURPLUS TAR to be produced during the year ending July 1st, 1895.

The Contractor to supply tank-cars for conveyance from the works to railway.

Tenders quoting price per ton on rails, to be delivered to the undersigned, by Saturday, the 23rd inst.

E. SHAUL,
Manager.

Gas Works, Penrith,
June, 13th, 1894.

Miscellaneous.

INSTITUTE OF CHEMISTRY OF GREAT BRITAIN AND IRELAND.

AN EXAMINATION in PRACTICAL CHEMISTRY for the Membership of the Institute, will be held in the Laboratories of the Institute, 30, Bloomsbury-square, London, W.C., on Monday, July 2, 1894, and following days.

All Candidates who were registered as Students of the Institute, or whose applications were accepted prior to October 1, 1893, are required to produce evidence of having passed through a course of at least three years' study in one of the Colleges approved by the Council.

In the case of Candidates not registered as Students of the Institute or whose applications for admission were not received prior to October 1, 1893, three Examinations in addition to the prescribed three years' training will be imposed, viz.:—

I. A Preliminary Examination in Subjects of General Education.
II. An Intermediate Examination in General, Theoretical, and Practical Chemistry, to be passed at the conclusion of the prescribed Course of three years' study.
III. A Final Examination in Practical Chemistry of a more special character.

A Prospectus, containing full particulars of the Regulations for Admission to the Membership of the Institute, may be obtained by application to Messrs. Blundell, Taylor and Co., 177, Upper Thames-street, London, E.C. Price One Shilling.

By order of the Council,
J. MILLAR THOMSON,
Registrar and Honorary Secretary.

Offices, 30, Bloomsbury-square, London, W.C.

UNDER A DEED OF ASSIGNMENT.

TO BE SOLD as a Going Concern by Private Treaty, those well appointed works known as the Clayton Chemical Works, Ashton New Road, Clayton, near Manchester. These works have been in operation since 1866, have a good situation, and are well equipped for the manufacture of Acetic Acid, Iron Liquor, Red Liquor, Wood Acid, Wood Tar, Charcoal, Charcoal Blacking, Coal Dust, and Chemical Products for Dyeing and Calico Printing, etc. For further particulars apply to the Trustee, M. Ormrod, Accountant, 41, Brown Street, Manchester, or G. Cecil Roberts, solicitor, 5, John Dalton Street, Manchester.

ANALYST WANTED (Yorkshire), in Manure Works; must be practical and with some experience, and willing to fill up time in office work. Apply by letter, stating salary and full particulars, to H R.C., *Chemical Trade Journal* Office, Manchester.

TECHNICAL CHEMIST (Ph.D.), holding diploma of Polytechnic School, wants to change situation. Eleven years' practical experience in large works in the manufacture of Acids, Alkali, Ammonia, Alumina Products, Mordants for dye works, etc; also experience in the extraction and smelting of copper.—Apply, B.C., *Chemical Trade Journal* Office Manchester.

Miscellaneous.—Cont.

WANTED, a Situation as FOREMAN in a Chemical Manure Works, by a man of large experience in every branch of a Manure and Sulphuric Acid Works; could take sole charge of works; highest testimonials.—Address, J.F., 871, *Chemical Trade Journal* office, Manchester.

ULTRAMARINE. — Wanted, the Address of CHEMIST or WORKMAN, now resident in England, who has been engaged in the making of Ultramarine on the Continent.—Address, "Ultramarine," *Chemical Trade Journal* Office, Manchester.

WANTED, for Manchester District, Druggist, Sundryman or Drysalter, to take up Disinfectant Agency for London Firm. Liberal terms. Apply "Druggist," *Chemical Trade Journal* Office, Manchester.

CYANIDES.—Wanted Particulars of Manufacture from Gas Liquor and Spent Oxide; communications treated confidential.—Mr. Brotherton, Commercial Buildings, Leeds.

WANTED.—Wrought Iron Tank, 6 to 10 ft. long, by 2 ft wide, by 15 inches deep, about ⅜ inch thick.—Apply, D.B., *Chemical Trade Journal* Office, Manchester.

SEWAGE PRECIPITATION.—Large quantities and regular supplies of GREEN COPPERAS For Sale.—Corrugated Iron Co., Limited, Wolverhampton.

FILTER PRESSES For Sale (3); very cheap and in good condition. Can be seen at 24, Grays Inn-road, London, W.C., R. W. Andrews and Co.

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OLIVOLINE and ATEROLINE. Two perfect non-gumming Lubricating Oils. 20 years in use. Made to suit every class of machinery ashore or afloat. Gentlemen who can influence business are offered liberal terms. Sole Makers, DUNCAN, WATSON & Co., Oil Manufacturers and Mill Furnishers, Dashwood House, New Broad-street, London, E.C.

SECOND-HAND MACHINERY FOR SALE.—One Copper Vacuum Pan, about 4ft. 6in. diameter; a Pair of Granite Edge Runners, about 4ft. 6in. diameter by 14in. wide, with bed stone, etc., and gearing complete; One Grain Convertor; several Screw Presses, Engines, Boilers, Tanks, Steam Pumps, Oak and Fir Vats, etc.—Apply to Henry Roberts and Co., Crown Works, Bancroft Road, Mile End, London, E.

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SULPHATE of Lime, calcined, For Sale, cheap, in large and regular quantities.—Address Sadler & Co., Limited, Middlesbrough.

DISINTEGRATORS.—A New Machine for £10., guaranteed second to none. Also Mortar Mill, 5ft. 6in. pan; new; for £24. A 10 x 6 New Stone Breaker, for £28.; larger sizes in proportion, or can be had on hire, with option of purchase.—S. Mason and Co., Stone Breaking and Grinding Machine Makers, Brandon-street, Leicester.

TO BE SOLD, the LANCASHIRE MANURE COMPANY'S WORKS at Widnes, with Machinery and 24,420 square yards of Freehold Land.—Address J. Hosking, 16, Fenwick Street, Liverpool.

AMMONIA, all qualities and strengths. Enquiries solicited. BROTHERTON & Co., Birmingham, Leeds, and Wakefield.

Advertisements which arrive too late for Insertion on this page will be found on first page of Matter (opposite Leading Article).

HARPER'S LIST

OF ACCESSORIES for the TRANSMISSION of POWER, viz.:—BELT PULLEYS, ROPE PULLEYS, GEAR WHEELS, SHAFTING, COUPLINGS, PEDESTALS, FIXINGS; appears on Pages 14 and 15 of the first *Chemical Trade Journal* of each month.

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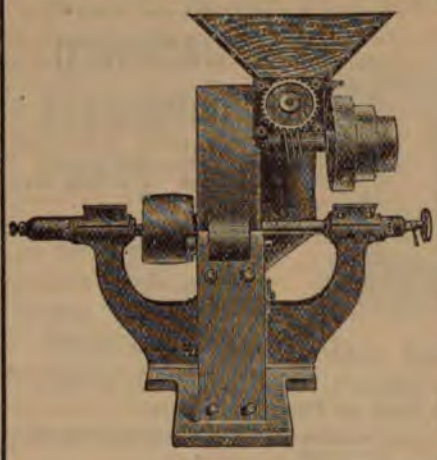

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Chemical Engineer & Millwright,
BRADFORD, MANCHEST

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SULPHITES AND BISULPHITES OF LIME, SODA,
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COILS for heating, super-heating, distilling and refrigerating purposes, to 500 feet long without joints.
JOHN SPENCER,
Globe Tube Works, Wednesbury, and 14, Great St. Thomas Apostle, Cannon-st., London, E.C.

BRYAN CORCORA
MILLSTONE BUILDE

WIRE WEAVER, MACHINE MANUFAC AND GENERAL MILL FURNISHE
Sole Maker of MILBURN'S Patent Conoidal Stone Grinding
Especially suitable for cer materials, Wet or Dry.
Works and Warehouses:
Back Church Lane. *Parcel Dept.:* Basement Corn Exchange.
31, MARK LANE, LONDO

Liverpool: Exchange Chambers
Glasgow: West Campbell-st.

CANNINGTON, SHAW & CO., LIMITED,

CARBOYS.

SHERDLEY GLASSWORKS, ST. HELENS.

WALKER BROS.,

ENGINEERS, PAGEFIELD IRONWORKS,

WIGAN.

WALKER'S PATENT

AIR COMPRESSING ENGINES.

GAS COMPRESSING ENGINES.

70,000 I.H.P. ALREADY AT WORK.

WALKER'S PATENT

EXHAUST AND BLAST FANS.

RIVER POLLUTION

DYERS, CALICO PRINTERS, AND OTHERS

Can readily PURIFY THEIR WASTE WATERS by the simple and inexpensive

ALUMINOFERRIC PROCESS.

Full Particulars on application to—

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R. W. GREEFF & CO.,

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SUGAR OF LEAD, WHITE AND BROWN.

ZINC OXIDE, PURE ACETIC, TANNIC, & SALICYLIC ACIDS, NITRATE & CHLORIDE OF BARIUM, &c.

SPECIALITIES:—

SODA ASH 58% POTASHES SALTCAKE BLEACH LITHIA SALTS BORAX MERCURIALS SUL. COPPER PRUSSIATES CYANIDES METALS MINERALS BRIMSTONE SULPHUR

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Castor Oil Olive Oil Essent. Oils Glucose Grape Sugar Cane Syrup Treacle Nitrate of Silver (Pure)

Amidol, Metol, Glycin, Thiocarbamid and other Photographicals, Lumieres, Dry Plates, &c., &c.

IMPORTERS—Commission Merchants—EXPORTERS.

Telephone No. 1050.

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LONDON: 17, Philpot Lane, E.C. and 2 & 4, Stone Street, NEW YORK.

HEADQUARTERS FOR ALL HEAVY OR FINE CHEMICALS,

Pharmaceutical Products,

Photographic Developers,

Drysalteries and Drugs,

Also OILS and PRODUCE.

SAMPLES AND PRICES ON APPLICATION.

CORRESPONDENCE SOLICITED.

Tenders.

BOROUGH OF BURTON-UPON-TRENT.

TAR.

THE Mayor, Aldermen, and Burgesses of the Borough of Burton-upon-Trent, acting by the Council, invite TENDERS for the purchase of the surplus TAR to be produced at their Works, during Twelve Months from the end of July next.

Probable quantity of coal carbonized during the Twelve Months, 25,000 tons.

The Tar will be delivered free into Contractor's Tank-trucks, on the Gas-works Railway Siding.

Payments: Net Cash, Monthly.

Tenders, sealed, and endorsed "Tender for Tar," are to be delivered to me, at or before 10 a.m., on Friday, the 29th of June inst.

The highest or any tender will not necessarily be accepted.

F. L. RAMSDEN,
Manager and Engineer.

Gas and Electric Light Works,
Burton-upon-Trent, June 8, 1894.

Miscellaneous.

PATENTS, DESIGNS, AND TRADE MARKS ACTS, 1883 TO 1888.

NOTICE is hereby given that BRIERLEY KELSALL RIGBY, of Ditton, near Widnes; FRANCIS AUGUSTUS REMINGTON NEILL, of St. Helens; and AUSTIN COOPER CARR, of Rainhill, all in the County of Lancaster, have applied for leave to amend the Specification filed in pursuance of the Application for Letters Patent No. 19705, of 1893, for "Improvements in the manufacture of cement from Chance or Le Blanc alkali waste or the like."

Particulars of the proposed amendments were set forth in the *Illustrated Official Journal* (Patents) issued on the 13th June, 1894.

Any person or persons may give notice (on Form G) at the Patent Office, 25, Southampton Buildings, London, W.C., of opposition to the amendment within one calendar month from the date of the said journal.

(Signed) H. READER LACK,
Comptroller General.

W. P. Thompson & Co.,
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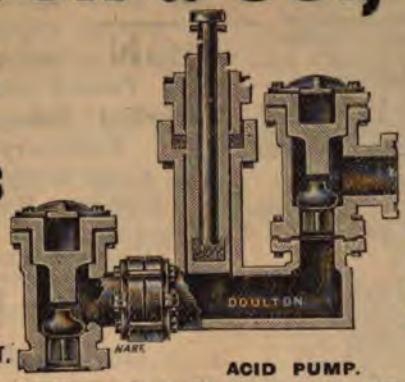

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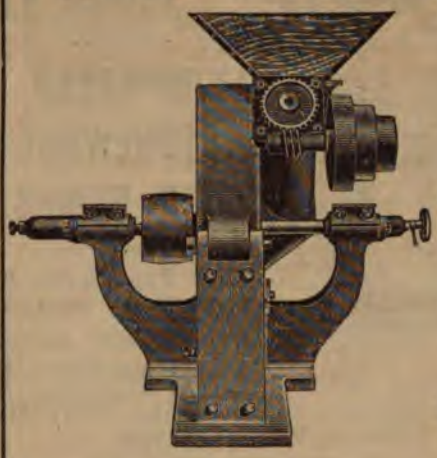

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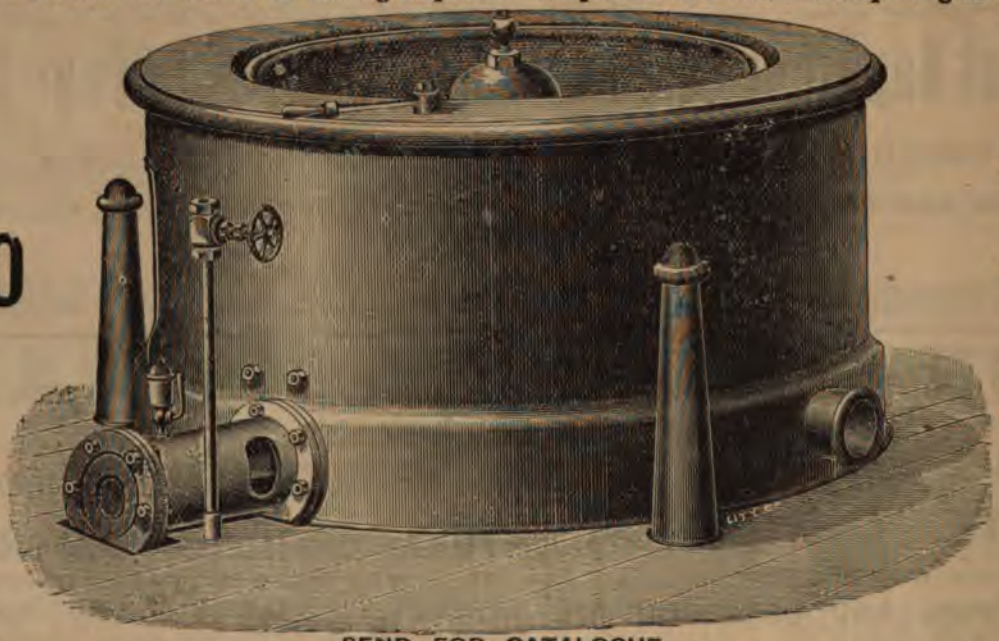

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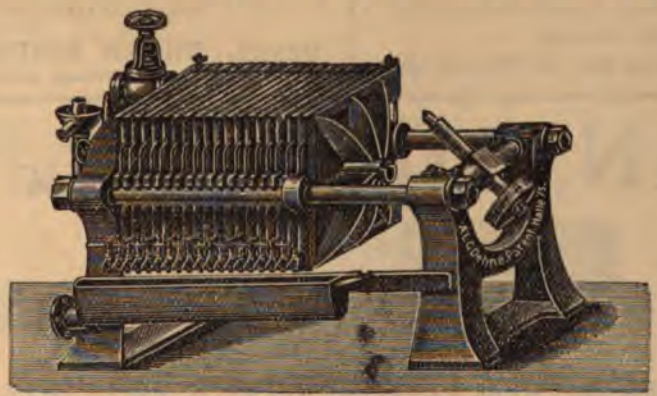

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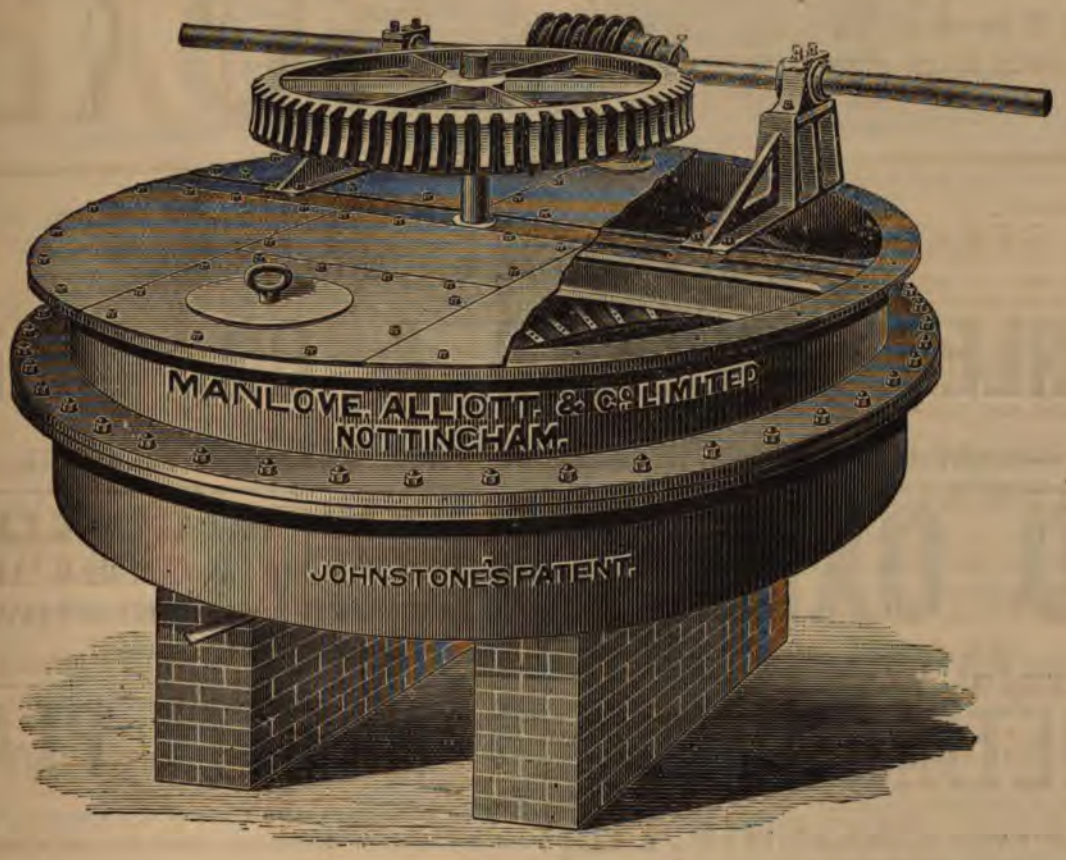

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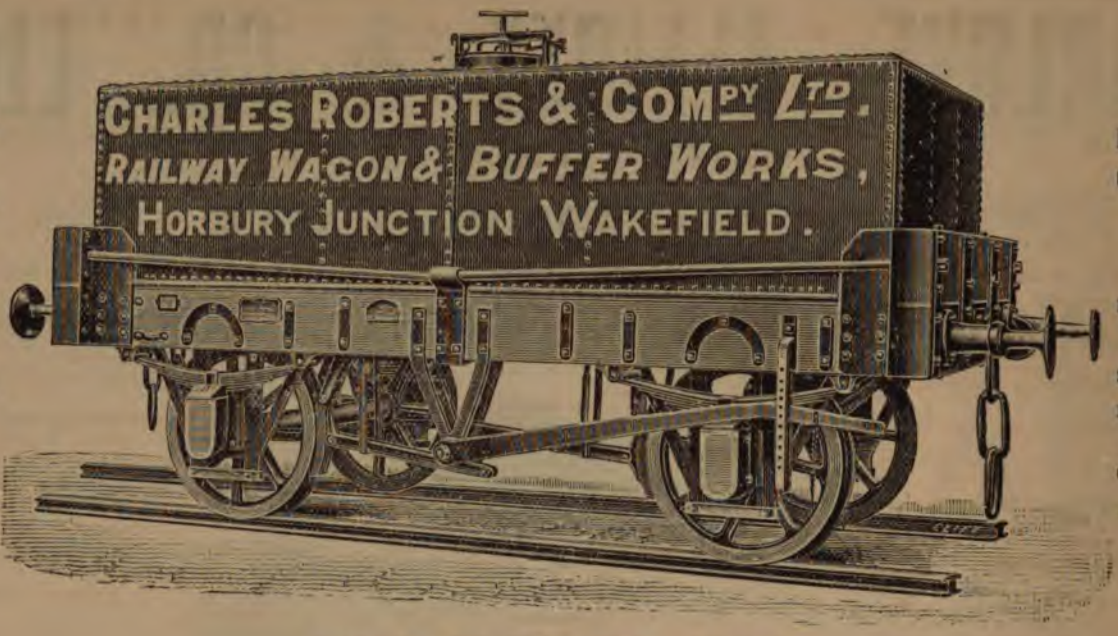

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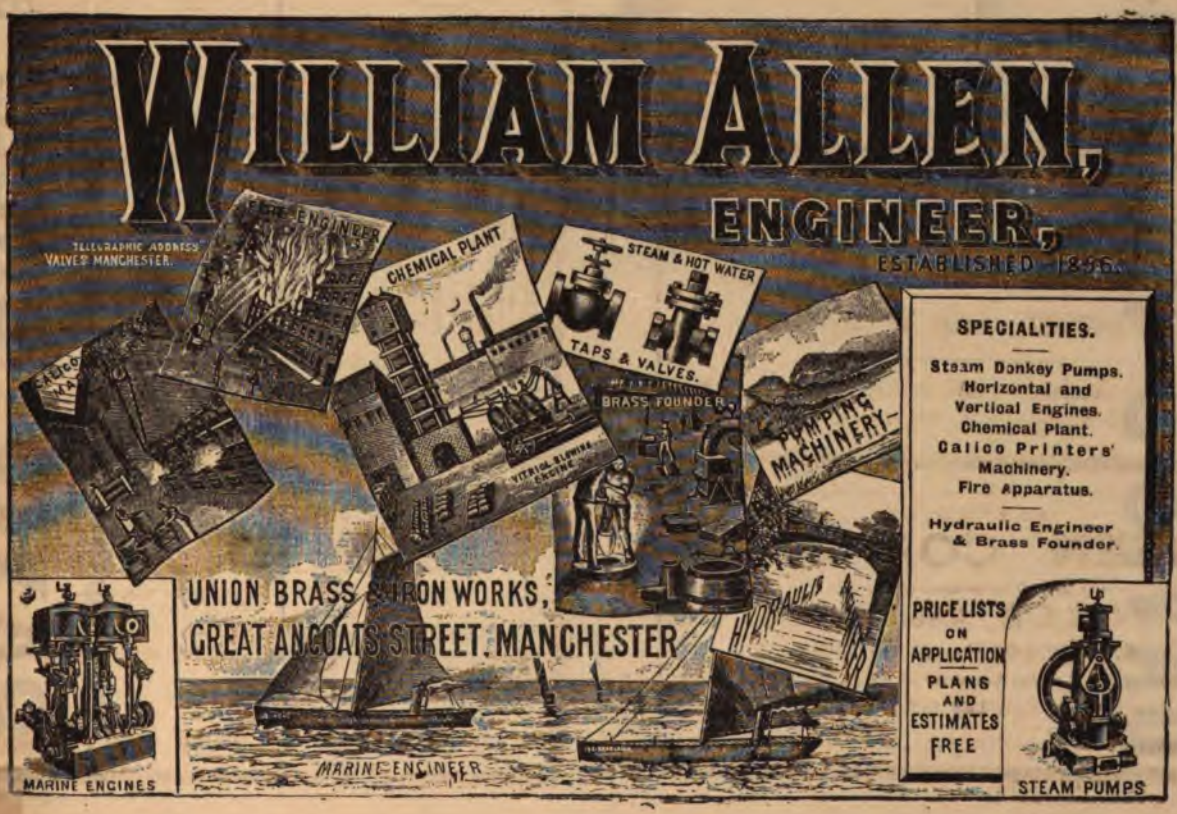

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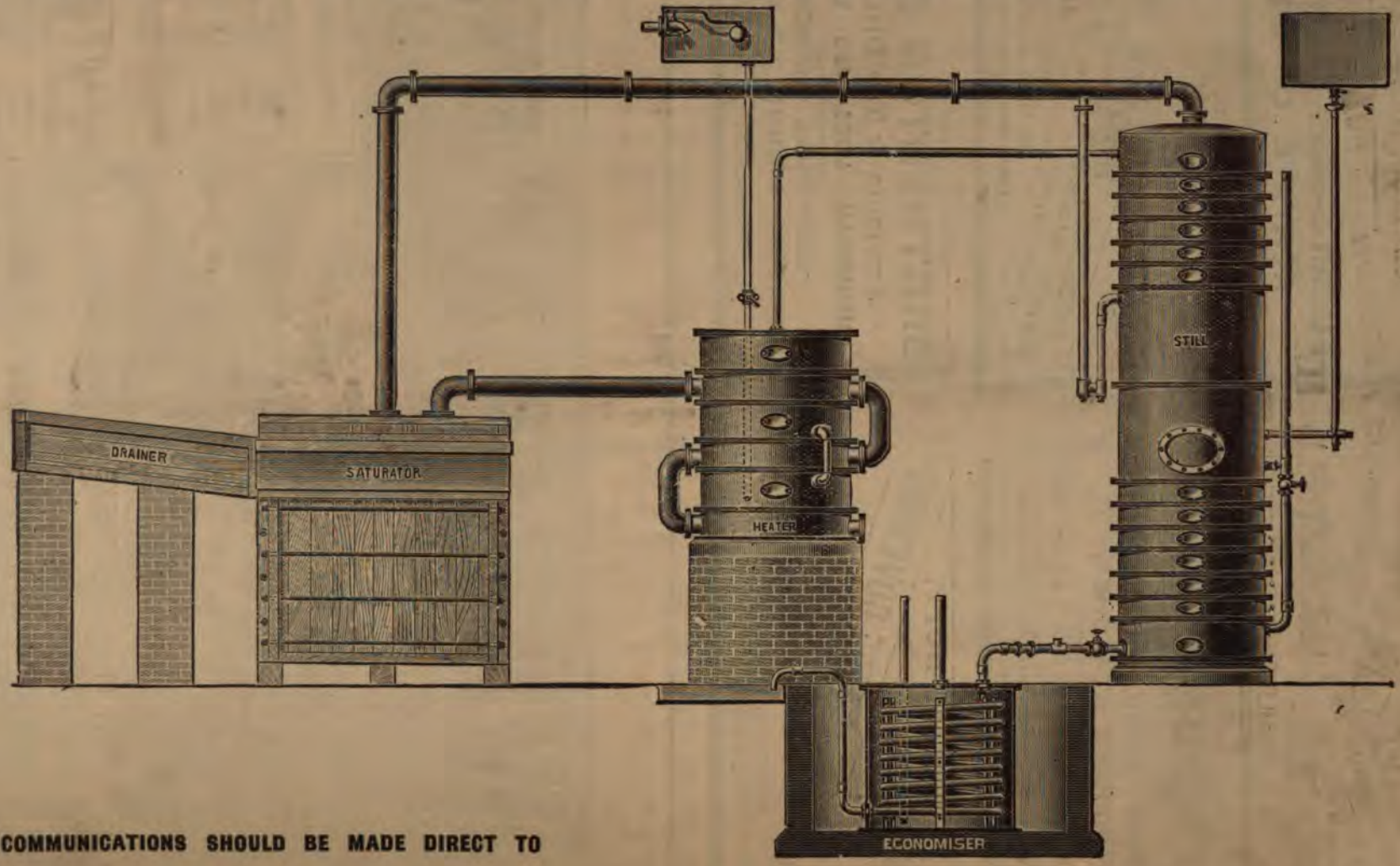

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